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THE ILLINOIS CATTLE DISEASE AND KINDRED MALADIES.

The newspapers of Illinois are still exercised over the remarkable appearance of the cattle disease which carried off so many fine cattle during the past year in that State, and which seriously damaged the market value of those that remained. They still hold to the theory that the disease originated with and was propagated by the cattle brought from Texas, but rejecting Professor Gamgee's theory as untenable, they now resort to other means of explanation which are as little satisfactory as that made public by Professor Gamgee himself.

The trouble in all cases is to account for the fact that the Texas cattle, which are accused of being the cause of the disease, are acknowledged to have been healthy themselves, or at all events have not, so far as it is known, been seized with the malady which it is alleged they communicated to the cattle of Illinois. Another remarkable fact is that in their three months overland journey from Texas, through Louisiana and Arkansas, the herds in the latter States are not known to have suffered at all. It seems curious therefore that the Texas cattle should be so capable of husbanding the contagious properties which it is alleged are in their blood, and with which it is asserted their voidings are charged, up to the very moment when they enter the State of Illinois, as if for the express purpose of vindictively compromising the cattle raised in that region. Such a theory is too manifestly absurd for belief, and the Chicago papers, throwing the crudities of Professor Gamgee deliberately overboard, now trace the origin of the malady to the overpacking of the Texas cattle, in the cars, after they reach Cairo, and to the otherwise careless feeding and rough treatment they receive. These causes they allege bring on feverishness and poison the blood. The explanation is much more plausible than the one put forth by Professor Gamgee, but it is nevertheless faulty in one important respect. It fails to account for the fact that the Texas cattle, even though they may arrive at particular railway stations weak and feverish, do nevertheless, speedily recover strength and health, and are not stricken with the malady which it is supposed they communicate to others.

We are sorry to say so, but we fear that a great deal of the outcry against the Texas cattle arises from the jealousy of Illinois stock raisers, who desire to drive a formidable rival from a field of which they formerly held almost a complete monopoly, and this impression is strengthened by the further fact that months before the Illinois cattle were stricken with the disease that has since proved so fatal to them, the Legislature of that State was urged to prevent the introduction of Texas cattle, not because of any thing injurious in the cattle themselves, but simply because their sale interfered with the profits of the Western graziers.

It is, moreover, quite as likely that a cattle disease of some sort should originate in Illinois as in Texas, or as the Rinderpest in Holland, or Holstein, or in Russia. No country, or district of country, can be held to be entirely exempted from the occasional presence of these strange maladies, whose causes are local and thus far incapable of satisfactory explanation.

In this connection, a handsome volume on the Rinderpest, which has recently been issued under the auspices of the New York State Agricultural Society, is well timed. It furnishes an additional evidence of the higher scientific talent which of late years has been directed to the treatment of diseases of animals. The wide field which has recently been opened by the Rinderpest and kindred maladies, furnishes a diversified, though not as yet a definite knowledge, of the cause of these diseases, their symptoms and the remedial agents—rarely, however, successful—which have been used in the endeavor to bring about a cure. The great defect of the treatise to which we allude—that is to say as a popular work—is the adoption of technical terms drawn from the copious vocabulary of the medical and chemical professions, the most of which only serve to baffle the efforts of plain farmers to comprehend them. But whilst the language used in describing

the pathology of the disease may be too scientific for him to understand, the rules of treatment are frequently laid down clearly and intelligibly, and this is, after all, the most important point. The difficulty in dealing with the Rinderpest, and its kindred maladies, seems to arise from the fact that they result from blood poisoning in its most rapid and virulent form. Unfortunately, too, in all epidemics of this type, the theories are as various as the remedies suggested. The consequence is, that it is too soon yet to say that any one has reached a satisfactory conclusion in regard to any of the cattle plagues that have devastated this or foreign countries. When taken in their earlier stages it is quite possible that the Rinderpest, or any other form of cattle plague, may be successfully treated, whilst prevention, by the free use of such powerful disinfectants as carbolic acid, is generally conceded to be more effective still. But wherever either of these maladies has had time to fasten itself upon the system, all the remedies thus far devised are of no avail, and complete isolation of the cattle affected, or the immediate "stamping out" of the disease by slaughtering the cattle that are taken with it, are apparently the only secure means to prevent the loss of the entire herd and the spread of the contagion to others.

Cultivation of Tobacco in Virginia and N. Carolina.

A Virginia cotemporary is of the opinion, says the *Tobacco Leaf*, that the cultivation of the weed in that State and in North Carolina is so rapidly declining that it will probably soon be wholly discontinued, because of its unprofitableness. Some planters, it asserts, in Pittsylvania and Halifax counties, Va., and Caswell, N. C., who last year planted immense crops, have realized enormous losses, and "will plant no more hereafter, until it shall become less ruinous to do so." As our cotemporary gives no reason for the loss on these crops, we confess ourselves puzzeled by its statements.—We know that the North Carolina crop last year was poor, but the high price that has been maintained throughout the whole of the present season for Virginia leaf, at the tobacco centres of that State, precludes the idea of loss on the part of the planters. We presume, however, that if there has really been a deficiency between outlay and returns, it has been in consequence of the changes and uncertainty in the labor market. It is our opinion that two-thirds of all the tobacco produced in this country, will hereafter be grown in the Western States. It will be long before the disarranged labor systems of the South will be sufficiently reconstructed to admit the profitable growing of a crop so dependent on labor as tobacco; but in the meantime the West will have gained so great an advance in the race of competition as to give it a superiority our Eastern friends will find it impossible to overcome.

AGRICULTURE IN THE UNITED STATES.

We have now reached that point in the agricultural system of the United States when scientific farming promises to become, in the highest degree, profitable, whilst the old slovenly processes will not pay. Year by year the area of the largest production of grain has been receding westward. So completely is this fact beginning to be understood that Chicago, the largest grain market in the world, is in danger of losing a portion of that traffic in which she has hitherto stood pre-eminent. Every year the supplies that reach her are smaller from the surrounding Prairie and Lake region, and the annual loss is only made up by the receipts of grain which reach her from the newer Western States. A change in the channel of sending grain to the sea-board markets seems also to be going gradually on, and after a while as the area of cultivation increases westward, much grain which now reaches the Eastern sea-board *via* Chicago, will be shipped to Europe from New Orleans *via* St. Louis, using the Missouri and Mississippi rivers as water-ways. The reduction in the yield per acre of grain in the Western States, and the longer distance required to transport it from the newer States to a market, must necessarily keep the price up, and thus the competition between the Western growers and those of the Middle States will be wholly to the advantage of the latter. The price of grain at Chicago controls the price elsewhere, and if it is maintained at even its present standard, the difference in cost of transportation to a market is a handsome profit in itself to the sea-board farmers.

But the average yield per acre of wheat in the Middle States does not exceed twelve bushels. Indeed it is doubtful whether it actually reaches that point, and it is in this limited average production our farmers sustain their chief loss—as they thereby lose in deficient yield the advantage they have in proximity to markets where the highest prices for all kinds of grain are paid. It seems to be forgotten that it costs no more to cultivate and harvest an acre of wheat yielding twenty-five bushels, than it does to cultivate and harvest an acre yielding but twelve bushels. Here then is a tremendous expense in the cost of labor which might be saved. In these days it is the cost of labor that eats up the farmers profits, and if he can double the product of his crops on the same extent of ground, without increasing materially his force of field hands, his profits must inevitably increase in proportion to the difference between the cost of cultivating fifty acres, yielding twenty-five bushels per acre, and of one huudred acres yielding but half that product.

Independently of this consideration, when once lands are restored to their original condition of fertility, or are made more productive than they ever

were before, they can not only be maintained at that point by judicious farming, but they cost less than poor lands to keep up.

Sir Humphrey Davy long since demonstrated that as the fertility of a soil increases its power of absorption increased also, and that therefore a fertile soil drew a considerable portion of nourishment from the atmosphere, whilst a poor soil derived scarcely any benefit whatever from that source.—Here then we have nature itself assisting the farmer who fertilizes his soil, and refusing to assist him who suffers his soil to run down to the point of exhaustion. Nor is the plant food derived by fertile soil from the atmosphere a light matter. Given a a rich soil with its absorbent powers at their highest point and it will require but little annual assistance from extraneous sources to maintain the fertility of that soil. Given a poor soil, and an occasional manuring, but temporary in its effects, and in the course of a year or two the soil is as poor as before.

One great error we commit is in devoting too much land to hoed crops, corn, tobacco, potatoes, and such like. Nothing exhausts a soil sooner. It is not merely the potash and the phosphates that are abstracted by the crops; but the waste by evaporation under our hot suns, and by washing, in loose soils from our driving rains. Our system —unlike that of Europe where the summers are comparatively mild and the rain-fall very heavy— requires that we should pay more attention to green crops than we do. They cover and protect the soil, they retain the moisture it needs, and the clover lay and grass sods when turned under help to fertilize the land and render it capable of producing the finest crops of grain.

Potato Growing in Minnesota.—H. W. Crane, Freedom, Waseca Co., Minnesota, writes the *Rural New Yorker*, under date of November 11th as follows:—"I purchased last spring, four pounds each of the Early Goodrich, Harison, Gleason, and Cuzcos. I cut them into single eyes and planted them in drills 3½ feet apart, putting one eye every 18 inches in the drill, with the following results: From the Eearly Goodrich I harvested 16½ bushels; from the Harison 22½ bushels; from the Gleason 9¾ bushels; from the Cuzcos 27½ bushels, making 76 bushels from 16 pounds of seed. The Cuzcos had been chilled so, only about one-half of them grew,—but those that did grow yielded equal to the Harison.—From 19 eyes of the Harison I raised 2 bushels of potatoes, producing at the rate of 839 bushels to the acre. If any one can beat that, let us hear from him."

If you would not have your horse acquire the habit of hanging in the halter, do not strike at him in front when young.

IRRIGATED MEADOWS.

In a recent number of the *Utica Herald*, Mr. X. A. Willard gives the following account of the system of irrigation pursued by Mr. Emery Allen, of West Turin, Lewis county, New York, which has proven highly successful:

Mr. Emery Allen, of West Turin, who has a beautiful farm of some 335 acres lying along the foot of a range of hills, has practiced irrigation upon his meadows for some years, and with excellent success. He has one hundred acres of meadow in one field, the surface quite level, over a considerable portion of which the water is carried in the spring. This meadow lies at the foot of the hills, and streams come down and enter it at different points. In the spring, the melting away of the deep snows from the hills and lands above, furnishes a large amount of water, which is spread over the meadow, and all fertilizing matter mingled with the water allowed to settle upon the soil. The meadow is not naturally wet, but is dry enough for the plow. The soil is deep and of remarkable fertility, and by a judicious system of irrigation is made to yield large crops of grass.

Quite a number of acres over the irrigated portions have never been plowed, the hillocks and uneven surfaces having been leveled with the spade. Mr. Allen estimates the crop of grass grown upon this meadow the present season at 300 tons. We went over this meadow and found it covered with a luxuriant growth of herbage, the whole presenting one of the finest pieces of grass lands that we have recently seen.

Mr. Allen says his average yield of hay from 120 acres of meadow, for a series of years, has been, one year with another, not less than 250 tons per year.

Last winter his stock consisted of 57 canal horses, 5 work horses, 2 yoke of cattle, 26 cows, 5 two-year old heifers, 7 yearlings, and 27 sheep, and he sold and drew off 26 tons of hay, having several tons left over.

We should have remarked that 40 acres of this meadow have never received a portion of manure, but have been kept in a high state of fertility, solely by irrigation. The water is let on very early in the spring, and is about three weeks in working itself off. The annual product is about three tons per acre. The grass here is cut but once during the season, and the aftermath is fed off in fall, but never allowed to be close cropped. Mr. Allen thinks he would get a finer quality of grass by feeding the meadows in the spring, say till about the 25th of May. The grass is mostly timothy, clover and red top, though of course largely intermixed with native grasses.

Our Agricultural Calendar.

Farm Work for January.

We have now reached that period of the winter season when the fields and the waters are completely ice bound, and the out of doors operations of the farm are almost entirely suspended, and with the exception of wood cutting, for fuel and farm purposes, whatever is to be done must be done under shelter. Preparations for the coming Spring work may nevertheless be made by anticipating the completion of such matters now as would interfere with the regular progress of farming when the weather breaks and the ploughs can again be brought into requisition.

But this season is, above all others, that in which thought should be taken for the future, without neglecting those domestic comforts and those social amenities which are so important to the emjoyment of country life in the winter time, and make days which would otherwise be tedious, pass pleasantly. A good library of well selected works—it need not be large—and one or two choice agricultural journals will also be found of great service in improving the mind and suggesting, so far as rural affairs are concerned, better modes of planting and tillage, and of renovating the soil. Now, too, is the time for laying out and systematising the next season's work, and for making those provisions for carrying it on as may expedite it in the best manner. The problem of labor, is one of the most difficult with which our farmers and planters have to deal, whilst the extremely high rates of wages demanded by capable hands requires the adoption of every available means to economize the outlay. To this end much may be accomplished by the more general use of labor saving machines, and where the poorer classes of farmers are concerned, by some method of co-operation whereby the machines or implements shall be purchased in common and used as common property under some fixed agreement as to rotation in use. The work for the month is as follows:

THRESHING GRAIN.

Such grain as may have been held back either by press of other duties or in hopes of meeting a better market, should now be got ready for sale. The price is good, and will be more easily obtained now than in the pressure to sell in the spring. In this State we are aware that the last crop was below the average, and no large surplus of grain was housed. Nevertheless, it is better to get the grain out at this dull season, in any event, so as to be prepared to take advantage of the market at the earliest moment as opportunity may offer for making a judicious sale.

SURFACE DRAINS.

A weekly examination of the surface drains of wheat fields should now be made. See that all clods and other obstructions are removed from the water-furrows, wherever the ground lies low and flat, so that they may be kept free to carry off the water from melting snows and thus prevent the youug plants from being drowned out.

FIRE WOOD.

We have repeatedly called attention to the propriety of having a good supply of fire wood cut and housed for the supply of the coming year. Any woods that are to be cut over for the sale of this kind of fuel in the market, may also now keep the axes at work so long as the snow does not cover the ground too heavily. But for domestic uses wherever coal can be easily had as low as eight dollars a ton, it will be found more economical to use it in preference to stripping the woods of their best timber.

FENCING.

All sorts of fencing required on the farm should now be gotten out and prepared for use. The old worm fence, when timber was abundant and the loss of land it occupied was of no consequence, answered its purposes very well. But it was always unsightly, and always a place of refuge for weeds and bushes. The post and rail fence is less costly in the end and far more cleanly and farmer like. So also gates should supersede the use of bars, and for the same reason.

STORE HOGS.

Continue to feed these moderately and regularly, keep their pens well supplied with materials for working up into manure, and their sleeping apartments dry and warm. Give them occasional supplies of charcoal and rotten wood to correct acidity.

SHEEP.

For the winter management of sheep we refer to the *Farmer* of last month.

Materials for Manure.

All sorts of rough vegetable fibre, woods mould, leaves, &c., &c., should now be collected and brought to the barn yard, or to some other convenient place to be converted by the addition of stable manure into compost—all the ashes, and wash water of the house, should also be added to the heap, and no source of supply of nutritious plant food should be neglected.

GATES.

The loss of time in pulling down and closing bars is not only very great in the course of a year but the bars themselves, offer, in careless hands, but an imperfect protection against the depredations of stock. Gates should take the place of bars in every field. They are very simple of construction, cost but little, and undeniably improves the appearance of the farm.

FOWLS.

Fowls that are expected to commence laying early should be warmly sheltered and well fed. Keep the floors of the fowl house clean; give them access to fresh water at all times; provide them with sand and wood ashes to dust themselves in, and lime or old mortar to pick, as they require it. With these precautions and with a small daily ration of meat chopped fine, the fowls will lay early, will go to setting early and the luxury of spring chickens will be secured before other fowls, less carefully tended, have much more than commenced laying.

Garden Work for January.

There is nothing that can possibly be done in the open garden during this month. Where there are hot beds the work of the season may undoubtedly be forwarded to advantage. Where there are not, matters must remain in statu quo until the season opens the way to its usual duties. Something however may be done even in the household. Cabbage and Tomato plants may be raised in quantities sufficient to supply the earlier wants of a family, by a very simple method. Take an oblong box, say six or eight inches high, two or more feet long—three feet would be better, as being about the width of ordinary windows—and about a foot broad. Fill the box, with rich well sifted mould, light and of a sandy texture. Sow the seed in this, and place it in the kitchen, or any other window where the rays of the sun can fall upon it the longest each day—water the bed occasionally with lukewarm water, and at night cover the box carefully, to prevent any frost from getting at the young plants.

Manure for Potatoes.—An exchange says the following receipt for raising potatoes is worth the price of any paper for one year to any farmer that is short of manure. It is as good as the best superperphosphate of lime, and it will not cost half so much. It has been tried two years, and is good on dry land. Take one cask of lime and slack it with water, and then stir in one bushel of fine salt, and then mix in loam or ashes enough, so that it will not become mortar; it will make about five barrels. Put half a pint in a hill at planting. All manures containing potash are particularly suitable for the potato. Ashes contain more than any other natural fertilizer, and should be freely used and carefully saved.

Stanchions with open mangers for cattle are objected to, because the strong steal from the weak.—A partition board three feet high would obviate the difficulty.

SULKY CULTIVATORS.

After another year's experience let us have a report of the results. How far have they proved satisfactory? Will they do to rely on as a single implement with which to cultivate a crop? Have they given satisfaction when used for putting in small grain?

I have, in former years, given my experience with them, and the opinion that they were not only reliable as a single implement, for the cultivation of corn, but that they were the best corn plow in use. I have used nothing else for the past six years; and have seen nothing the past year to change my opinion of their valuable qualities.

Last spring I put in some twenty-five acres of oats, and spring wheat, with one, and the result has been very satisfactory. My ground was ordinary corn-stalk ground. I used four shovels, straddling the row, the same as plowing corn. I found it a little heavy for two small horses, and put on three, when they walked along with ease; plowing up nicely, from seven to eight acres per day. Some of the seed was sown before, and some after plowing. I then harrowed it all the opposite way from what it was plowed; which leveled down the stalks and ground; leaving a nice bottom for the reaper. I think the ground should have been rolled after harrowing this season.

If the ground is very cold, or wet, I should prefer plowing first; but if it is in good order, perhaps sowing the seed first would be best; as there would then be little danger of covering the seed too deep to get up.

This is certainly a very speedy way of getting in a crop, which is usually an important item; as we frequently have but few days that the weather and ground are in a suitable condition for working.—And taking advantage of these few days, often decides between a good crop and a total failure; as it did this season, when early sown grain was a fair crop, while much of the late sown was not worth cutting. By this plan a man can plow, sow and harrow some four acres per day.

This being my first trial, I can only say that it proved satisfactory, as I had a better crop of grain than any of my immediate neighbors, who put in their grain on similar ground, but by different modes.—*Illinois cor. Prairie Farmer.*

Fodder Corn for Milch Cows.—After trying a variety of different kinds of feed, I find the fodder of sweet corn, cut when green (it may be planted in hills if desired, and the corn harvested for use when full enough) and well cured in the shock, the best milk producing and butter-making food that I have used, after the grass fails.—*Cor. Maine Farmer.*

CULTIVATION OF CHICORY.

The frequent failure of pastures on account of drought, has directed the attention of breeders of stock to the obtaining of succulent forage plants, which will withstand the effects of dry weather and be available for feeding cattle and sheep whenever the grass has become parched and worthless.

Chicory (*Cichorium Intybus*) also called "succory," is highly recommended as a useful forage plant, by those who have cultivated it. In France it is grown extensively for forage and enters into the regular rotation of crops in many places. It withstands the most protracted drought, its large leaves covering the ground and its root sticking deep into the soil. It comes very early in the Spring and may be cut for soiling several times in the year. It is a perennial with very ornamental blue blossoms. Its root resembles that of the parsnip or carrot, but is smaller; the main root grows to the depth of from one to ten feet, but in loose soils the fibers sometimes penetrate to four or five feet in depth.

Professor Morton says that the Chicory plant was introduced into field culture in England by Arthur Young in 1780, and was grown principally for feeding sheep, for which purpose it is very well adapted, as it thrives upon nearly every kind of soil and will probably feed more sheep to the acre, than any other forage plant. It readily adapts itself to the soil in which it is grown, yielding a fair crop on light, sandy soil, while on the deep muck of reclaimed swamps it is very productive. It lasts for seven or eight years, yielding several cuttings in the year.— It does not yield a full crop until the second year from the time of planting.

Throughout the south of France and the north of Italy, Chicory is grown extensively for grazing purposes. The seed is sown broadcast in Spring upon land which has been deeply tilled, at the rate of about twelve pounds per acre. Some of the most productive Chicory meadows in France and Italy have been obtained in this way, but the broadcast plan of sowing has latterly given way to the drill system. For this the soil is prepared early in Spring by a thorough cleansing from weeds, and pulverization of lumps. A compost of well rotted manure, leaf mold, etc., is then spread on the surface, and the seed is drilled in with a machine, with about nine inches interval between the rows.

When the plants are large enough they are hoed and singled, and then left to take care of themselves, unless a growth of weeds threatens to damage the crop. In some places the plants are raised in hot beds, and when five or six inches high are set out in rows nine or ten inches apart, the plants being six inches asunder in the rows. In all cases the land must be kept free from weeds. Chicory is generally allowed to remain in the soil for five years and then the roots are dug out and another crop of a different kind substituted.

The roots of Chicory are now used extensively in England and America as a substitute for coffee. It is said the rich aromatic bitter of the French Coffee is occasioned by Chicory. When the plant is grown for the sake of the root the following mode of preparation and after-culture is adopted. The land is plowed deeply in Autumn, and if it is dry and porous, it should be harrowed before Winter. As soon as the soil is fit for working in Spring it is thrown into ridges in order to deepen it, and facilitate subsequent hoeing, and the seed is drilled in at the rate of four pounds per acre, in drills 12 to 14 inches apart. The plants will not show much for a month or six weeks, and if weeds spring up and threaten to smother them they should be cut down with the hoe or small cultivator. The plants should be thinned to five or six inches. The after-culture consists of careful hand hoeing. Late in October or early in November the roots are dug with a digging fork.— The leaves are generally taken off and fed to sheep before the roots are disturbed. When taken up the roots are topped and tailed, washed and cut into slices in lengths as equal as possible. They are dried either by exposure to the sun or in kilns, and are then ready for market. The usual yield is about twelve to fifteen tons of the fresh roots per acre, which when dried, diminish to about one and a half tons. The price varies from $50 to $150 per ton, according to quality. When used the slices are roasted and ground like coffee. The principal objection to this crop is the great difficulty with which it is afterward eradicated, as the smallest fiber, if left in the ground, will form a plant. Sheep in common with all stock, are very fond of the leaves and thrive well on them, and on large farms a few acres devoted to this esculent will prove exceedingly valuable for early and late sheep feed, and also for horses and cattle in Summer or early in the Fall, when the pastures are scorched by protracted dry weather.— *Western Rural.*

California Wheat.—The San Francisco papers report that certain sections of San Joaquin county produce forty bushels of wheat and eighty-five bushels of barley to the acre. The Chili Club wheat, however, raised in Los Angelos county, yields eighty bushels of wheat and one hundred bushels of barley to the acre. These immense crops, it is stated, are produced without the use of any kind of manure or fertilizer, except rain and sunshine. In England, in soils under the most perfect state of cultivation, thirty-two bushels of wheat per acre is considered a very fine crop. From twenty-eight to thirty bushels per acre is the customary yield of the rich grain-growing countries.

FOR THE MARYLAND FARMER.

THE MOST ADVANTAGEOUS USE OF STRAW.

If the farmer will haul to the field in winter all the straw of the small cereals not needed for feeding and bedding the stock, as soon as the ground freezes sufficiently to admit of carting on the grain fields without injury to the crop, or the land, and will spread it on the poorer and most bleak portions of the fields, thinly and evenly, he will find it infinitely more profitable than leaving it in stack, or heap, or spreading it in the barn yard.

The effect will not only be seen on the grain, but the protection to the young grass plants will be found of great service.

The labor of moving and applying a given quantity of straw in a dry state, compared with hauling it from the yard when it has become thoroughly saturated with rain water, no better than that which falls on the fields, will be found to be fully seventy-five per cent. less. If applied as I have recommended, we begin to get the benefit of it at once, and there is much less waste when thus applied, than there is when it is allowed to remain in the manure yard until decomposed, or partially so.

I will admit that a good bed of straw gives to the stable yard an air of comfort, but I claim that no farmer can afford to feed stock in an open yard.—Everything fed, should be fed in the stable, and the yard should be so graded as to be dry and pleasant as a place for sunning and exercising the stock, and this yard is not the place for manufacturing manure. The compost yard should not be the stock yard, and all the droppings should be daily gathered up from the stock exercising yard, and be deposited in the manure house. Stock yards are usually used for the manufacture of manure, are generally liberally strewed with straw and corn stalks, with which the droppings of the cattle and the excrement and soiled bedding from the stables are scattered over the yard, though more frequently allowed to accumulate in a heap so near the stable doors, that frequently, before spring, they are so blockaded that it is with difficulty that animals can go in or out with safety.

This heavy bed of straw and stalks form an excellent filter through which the liquid excrement and the soluble portions of the solid, are readily washed out with the rain that falls on the yard in addition to that falling from the eaves of the barn and shedding, which are generally without eave troughs, or gutters. This large quantity of water is generally sufficient to thoroughly remove, and convey beyond the limits of the yard, the greater portion of its contents as rapidly as it becomes soluble, which is generally discharged into a neighboring brook, or is allowed to flow on to land already surcharged.

Now, if the top stalks and blades, and the straw designed for feeding and bedding the stock, are carefully housed in the barn and sheds, and the straw not thus needed is applied as I have recommended, and the butt stalks left standing in the field, and the yard kept cleanly and dry, it will be found vastly more profitable. The manure house should be nothing but an open shed, just sufficient to protect the manure from the rain. It should be located on the lower side of the yard and 4 to 6 feet below the grade of the yard, that the manure may be dumped from the barrow into the manure house.

The ground should be so graded below the manure house that the carts and wagons can approach it closely, and if possible stand lower than the floor of the manure house for convenience in loading.—With this arrangement the labor of handling the manure from the stables and depositing it in the manure house, and again in loading it into the vehicles to haul to the farm, will not be one-fourth of what it is to load it from the ordinary cattle yard, in which the cattle have tramped it, and from which it is all to be raised the entire height of the cart.

Straw and stalks are often removed from the yard in a half decomposed state, in which condition the labor of forking is very great, and it is often to be performed in the busy season when other important work has to be defered for this, which might have been all done in the winter, when the ground was frozen, the team strong, and manual labor less valuable.

The manure house need not be very capacious, as the manure should not be allowed to accumulate in the house until it heats so as to become fire-fanged, but it should be hauled out as it is made and be spread on the surface of the land where it is to be plowed in sometime subsequent, that it may contain all its fertilizing properties, which will be absorbed by the soil needing it, instead of the waste described, consequent on keeping it in a yard.

When thus hauled to the field and spread on the surface of a grass field, weeks before it is to be turned under, it will often produce a growth of vegetation to be turned in with it, nearly equal in value to the manure applied. This, in addition to the other advantages of the system I have recommended, constitute the best and most economical one known to the writer, with whom it is not an untried theory, but has been tested for years, in comparison with the course condemned.

The butt stalks left standing in the field, may be very rapidly broken off at the ground by taking a piece of square timber, say 8 or 10 inches square and 5 feet in length, and boring an inch hole in the centre of each end of it, and inserting a strong pin which should project some 4 inches. Take a chain with a ring the size of the pin on each end and some 8 feet in length with another ring in the middle of it, place the end rings over the pins and attach a swingletree to that in the centre, to it attach a horse, and mount him and ride through the field between the rows, and two rows will be broken down as fast as the horse can walk.

This work should, for two reasons, be performed when the ground and stalks are frozen, viz : time is less valuable, and the stalks are more easily broken.

The stalks may be readily plowed in after this process, which is inexpensive and answers well.

Some well decomposed and composted manure is annually required on the farm, this may be obtained by having a proper place of deposit for its manipulation where no stock is allowed to run ; and commencing the heap by hauling from the manure house a few loads, and from time to time gathering from all sources from which matters suitable for the compost heap are obtainable, and spreading such materials on the bed of stable manure. Weeds from the garden and root grounds, rough grass and weeds cut wherever the cattle cannot be permitted to range, *i. e.* the fruit yard, sods from ditch banks, scrapings from the road-side ditches or gutters, and the like, will all be found valuable for this purpose. As these materials are applied to the compost heap, they should be spread over the substratum, and when it has accumulated to the depth of twelve

inches, a new heap should be commenced; and when the matter thus mixed has lain so long that a degree of decomposition is attained that will make it practicable to mix the mass by plowing it over, it should be done, and be repeated at proper intervals, until the desired condition is secured. It is childish to talk of turning compost heaps by manual labor in this country, and particularly with the character of labor we have since the war. I know of nothing more absurd than what I have often seen recommended in respectable agricultural journals, as an economical mode of turning manure heaps, viz: by working it over with swine. This, and working the milch cow in the yoke while in profit, are about equally bad economy. The hog if properly managed, is one of the most early maturing animals, and one of the most profitable on the farm. But to secure the most early maturity, the best quality of meat, and at the least cost, the animal must be kept quiet and in thrift from birth to death by the knife, hence, how ridiculous the idea of putting to hard labor for nothing. I know of but one other practice in the management of swine, that is worse economy, and yet I have seen numerous instances of this brutal cruelty.

I have seen a lot of store hogs wintered in an open pen without shelter, without any bedding except one of ice or mud, and with not half the food required to keep them growing, and that fed in the shape of mouldy corn on the cob, and that fed in the mud.

This I have seen more than once, but I pray that I may never see it again.

What a spectacle in a land of plenty, and in one classed among the civilized, in the history of the world.

J. Wilkinson,
Baltimore, Md.

Delaware Hedges.—A correspondent of the *Bucks County Intelligencer* says of Delaware hedges:—"They are allowed to grow untouched for three years, when they are, by means of an axe in the hands of skillful workmen, cut nearly off, close to the ground, and 'laid,' as it is termed: that is, the stems of the trees are inclined and interwoven into a kind of hurdle, about two feet high, which is sustained in an upright position by stakes driven in the ground eighteen or twenty inches apart. The hedge is 'laid' in the spring, and it immediately begins to sucker out, so that by fall a dense growth of new wood makes a complete barrier against cattle. With immense shears, or with a knife somewhat like a corn-knife, workmen then go over the whole, lopping off the tops of the branches, when new branches are thrown out below, so that in a few years a hedge is completed, that, to use the words of my host, would turn a rabbit. I never saw anything more beautiful than those living fences, and these, with the really beautiful houses of the Delaware farmers, led me to think Newcastle county, Delaware, one of the most pleasant places for residence America can furnish."

The roller when judiciously used is beneficial.—The character and condition of the soil should determine as to its use.

AGRICULTURAL ENGINEERING.

To the Editors of the Maryland Farmer:

The agricultural interest of many extensive districts require the services of an engineer who understands the subjects of under-draining and irrigation.

The ordinary work of the civil engineer for railroads, canals, fortifications, common roads and the like does not qualify the practitioner for the work of under-draining and irrigation.

A thorough knowledge of the principles and the details of these branches cannot be acquired in any other way than by a practical experience, any more than either of the other branches mentioned.

If some enterprising young engineers would make these branches a speciality, in different localities, and would offer their services to farmers requiring work of this nature executed on low terms, and they would carefully observe the degree of success attending their first operations, they would soon acquire a knowledge of these arts that would make for themselves a remunerative branch of their business, and agricultural districts needing improvements in this direction would be greatly benefited.

Once the art is thoroughly understood, and its beneficial effects known to the farmer, the products of the districts into which it is introduced will be greatly enhanced in value.

Very little has been done in the way of irrigation in this country, and for the want of a knowledge of the subject, the experiments have many of them resulted in injury rather than benefit to the land.

More than thirty years since the writer executed for himself a work of irrigation on some fifteen acres of land in which he was successful in greatly increasing the crop of grass, and when the land was broken up and cropped the beneficial effects of the irrigation on the land was very apparent.

In several subsequent operations on different areas and under a great variety of circumstances, and in the use of water of various qualities, he has realized very satisfactory results.

There are many farms in various parts of Maryland and Virginia that the hay crop could be doubled on at a very trifling cost by judicious irrigation.

Where the quantity of water to be applied is small, and the area corresponding, the process is comparatively simple, but in irrigating large areas, with a large flow of water, the work is more difficult and there is greater danger of damage from washing, hence, more skill and experience is required in such cases.

If any readers of the *Farmer* have had any experience in irrigation, whether it has resulted profitable or otherwise, the writer would be pleased to have them give their experience for the benefit of others.

J. Wilkinson,
Baltimore, Md.

RAMIE:

The New Textile Plant, for Southern Cultivation:

With a Full Description of its Uses, Mode of Propagation, Cultivation, &c.

BY J. BRUCKNER, NEW ORLEANS, LA.

This new textile, lately introduced to Southern Agriculturists, is a native of the Island of Java, and was first brought to Europe, for investigation, in 1844, where it received the botanical name of *Boehmeria Tenacissima*, and by the beauty and strength of its fibre, attracted much attention in manufacturing circles. Since that time every encouragement has been given to producers in the East Indies to induce them to cultivate Ramie in sufficient quantity to supply the demand; the result is that a considerable quantity is annually received in Europe and manufactured into fabrics of the finest quality, excelling in strength, beauty and finish, linen of the finest texture, and rivalling even silk in lustre.

Since its introduction into the United States in March, 1867, it has excited much interest among European manufacturers. They consider the fibre of the *Boehmeria Tenacissima*, superior to that of any other textile plant, and very valuable for manufacturing purposes; the supply from the East is entirely inadequate to fill the demand, and unequal to the fibre here produced in quality; they are, therefore, very desirous of seeing Ramie successfully cultivated in some country where the yield will be large and regular.

Advantages of Ramie over Cotton and other Staples now Cultivated in the South.

The soil and climate of the Southern States are particularly adapted for the cultivation of Ramie, which requires a loose, sandy soil and temperate climate. These advantages can be secured in any of the cotton-growing States.

At the present time most of our planters and farmers are financially crippled, and cannot afford to expend the large sums necessary to secure the labor to make cotton and sugar profitable crops, both of these articles require large capital and continuous cultivation to bring them to perfection, and both may be injured or destroyed by unfavorable seasons, or other causes. Cotton may be totally destroyed by the army worm, or other insects. The fibre of Ramie, being contained in the inner bark of the stem, cannot be injured in that way, and will not be hurt by either long continued wet or dry weather; besides it requires small capital to start a Ramie plantation, the plant being easily propagated and cultivated; it is a perennial, and will not require replanting.

Having been interested in Ramie culture since its introduction in Louisiana in 1867, I have given my undivided attention to seeuring its successful introduction and cultivation, and bringing its worth and usefulness properly before the Southern public. I have made frequent experiments in extracting the fibre from the stem and preparing it for use, and have tried plants grown in this and other States with the most satisfactory results. I find that our fibre is even finer than that of Java, and that the yield per acre is greater. In any of the Cotton States Ramie can be harvested at least three times a year, each harvest or cutting will produce between nine and twelve hundred pounds, making an average annual crop of about three thousand pounds of crude unprepared fibre, worth at present in Europe ten cents specie per pound; in preparing the fibre for manufacturing purposes it loses about one-half, and increases in value to sixty-five cents per pound. Thus, it is apparent that Ramie, requiring little or no tillage to produce such magnificent results, is the most profitable crop that the planter can cultivate.

The fibre, when prepared for the spinner, is beautifully white, soft and glossy, closely resembling floss silk in appearance; it is much stronger than the best flax, and readily receives the most difficult dyes without injury to its strength or lustre.

Mode of Propagating.

A rich, sandy soil is the most suitable for Ramie cultivation, and is particularly desirable for a nursery, where plants are to be rapidly propagated.—For field culture the plant will thrive in any good sandy land. To secure a rapid and vigorous growth of roots, the land should be thoroughly and deeply broken up to a uniform depth of about ten inches, and well pulverized. This is highly important, and should be carefully performed to insure a rapid accumulation of roots.

In propagating, level cultivation is preferable; root cuttings should always be used for first planting.

After the ground has been thoroughly prepared as above directed, the roots should be planted about six feet apart each way, three inches deep, and slantingly, with about one inch exposed above the surface; care should be taken to keep the ground moist around the roots when first planted. No further attention, with the exception of weeding, is required until the sprouts are about two feet high, when they should be gradually and gently inclined towards the earth. When they have attained a height of three or four feet it will be noticed that they become of a brownish color near the root, they are then ready for propagation; incisions should then be made with a thin, sharp-pointed knife at each eye of the stem, which should then be bent gently down, and covered with about three or four inches of loose earth, care being taken to avoid detaching the stem from the parent root. About six inches of the leafy end should be left uncovered. In the course of three or four weeks these layers will have taken root, and may then be separated from the main root, divided in pieces and replanted. In planting in the field, layers may be laid down without being divided.

Field Culture.

After the ground has been ploughed deep and thoroughly broken up, it should be laid off in beds running the length of the field; these should be made about six inches high and four feet wide, with a flat surface; passages three feet wide should be left on each side, and cartways at intervals through the field. A shallow furrow might be run down the centre of each bed; if roots are to be planted, they should be put in the ground slantingly, three inches deep apart, with end projecting above the ground; if layers are to be planted, they should be laid in a furrow, about three inches deep, horizontally, with the ends lapping as in cane planting.—After the first year's growth has been cut, new sprouts will issue from all parts of the bed; the growth will become very dense, and choke out all other vegetation.

Harvesting.

When the stems have attained a height of six or eight feet, they are then ready to be harvested; but should it be inconvenient for the farmer to commence cutting at the time, the fibre will not be seriously injured if left in the field for a week or two longer. In cutting the stems an ordinary cane knife may be used, care being taken to cut the stem a little below the ground. It will also be advisable to extract the fibre when the stems are not too dry, as that labor is then much more easily performed, and the fibre is of better quality if broken out while in that condition. A simple and easily worked machine, similar to the ordinary flax breakers, is being constructed for that purpose; with this, the planter can make his crop marketable at small expense. In preparing the fibre for packing it should be done up in hanks, and packed in bags or bales like cotton. All refuse matter, such as leaves, the woody substance of the stem, etc., should be strewn over the field; no other manure is required.

General Information Concerning Ramie.

Ramie may be planted at any growing time of the year—the fall and early in the spring being the best times for starting. It cannot be injured by cold, unless the ground freezes to a depth greater than six inches, and continues frozen for several days.—Many persons suppose *Boehmeria Tenacissima* and China Grass identical; this is not the case, although they belong to the same family of plants. The China Grass produces seed from which it can be propagated, but the system is difficult, and the fibre unequal to Ramie in texture. *Boehmeria Tenacissima* can be propagated only from root cuttings, and is the finest variety of the *Urticacea* family. In commercial parlance the fibres of the *Boehmeria Tenacissima* and the *Boehmeria Nevia* or China Grass are called China Grass. In preparing the fibre for market it will be to the advantage of the producer to ship it in its crude raw state, as very little expense will be incurred in so preparing it. In this condition, as before stated, it is worth ten cents in specie per pound. In preparing it for the spinner, a chemical process and costly machinery would be required. A factory for this purpose will be erected in New Orleans during the coming spring, and planters and farmers will, at all times, find a ready market for their fibre in this city.

Expense of Raising Wheat, &c.

A correspondent of the *Country Gentleman* says: "The expense of raising and harvesting a crop of wheat is not far from $20 per acre. With a yield of 10 bushels per acre, at $2 per bushel, all the profit we make is the straw, say 500 pounds, at $4 per ton, or *one dollar an acre*. If we raise 20 bushels per acre, or $40; the *profit* is $20 per acre, or *twenty* times as much as from a crop of ten bushels per acre—for the extra straw will nearly pay for the extra expense of threshing, and the land will be in enough better condition to pay for all other expenses. Double the crop once more, and raise 40 bushels per acre, or $80, and the profit is $60 an acre, or *three* times as much as from the 20 bushel crop, and *sixty* times as much as from the *ten bushel* crop! In point of fact, however, it is more than this, for a crop of this kind would probably be choice white wheat, worth from 25 to 50 cents a bushel more than the other. In the culture of wheat, therefore, the great aim should be to get a large yield per acre. Forty bushels per acre, once in four years, is vastly more profitable than 10 bushels per acre ever year.

DEEP AND SHALLOW PLOUGHING.

The following are the remarks of Horace Greeley, recently made at one of the meetings of the American Institute Farmers' Club, when the subject of deep and shallow ploughing was up for discussion:

I have not much to say, but I will read on deep plowing from a book which many think is good authority. "Behold there went out a sower to sow: and it came to pass as he sowed some fell by the wayside, and the fowls of the air came and devoured it up; and some fell on stony ground, where it "had not much earth," and immediately it sprang up *because it had no depth of earth*, but when the sun was up it was scorched, and because it had no root it withered away. And some fell among thorns grew up and choked it, and it yielded no fruit.—And other fell on good ground and did yield good fruit that sprang up and increased, and brought forth, some thirty, some sixty and some a hundred fold. He that hath ears to hear let him hear."

Now this is a general proposition in agriculture, which holds good in all countries, latitudes and soils. I have traveled in Jersey, and I saw in one season of drouth, in Atlantic County, everything burned up, and the crops would hardly produce the seed for want of root, as in the authority given. The report which has been read disregards the fact that there they have a peculiar soil not common to the country at large. On the American Bottom, where the sub-soil is loose enough, one may plow only two inches and a good crop follow, but there would be a better crop with deeper plowing. I saw corn in California 22 feet high, on which no rain had ever fallen, but the soil to a great depth had been made a sort of porridge by a Spring over-flow. I saw grapes there which require a little watering for a year or so, but after they had become established they did not care for plowing or rain, for the roots had penetrated six feet deep. Thus it is some few places require only planting. Now as to subsoiling, not one-twentieth part of the advantage will be received the first year. Subsoiling is a civilizer. Grass lands may do very well and never be turned by the plow, providing the vegetable mold remains on the surface; indeed, there is much grass land which perhaps will be better if never plowed.

Still, if one would raise grain crops, they must be plowed, and deeply. As regards the use of lime, there may be some ground, mostly muck, that will stand 1,000 bushels to the acre. I know of an orchard that was killed by the application of 600 bushels to the acre. Usually, 200 bushels will be all that land will bear. At some future time I will read a paper on this subject of deep plowing, for it is not generally understood.

How to Kill Wild Oats.—Mr. Robert Brown, correspondent of *Canada Farmer*, says "the following plan has been found very useful in eradicating wild oats. Plough the stubble early in the fall, and harrow well. Cross plough early in the spring, and after a few days harrow well. About the latter end of May, plough a third time and sow with barley.

This mode of cultivation will do much towards germinating and then killing the foul seed. But should wild oats still appear, there is one more chance. Barley will ripen in time to harvest when the "oats" are yet green, so preventing the seed from shaking off to pollute the land for another year.

HARNESSING HORSES.

(CONCLUDED FROM OUR LAST.)

LETTER III.

HENRY BERGH, ESQ., PRESIDENT, &c.—*Esteemed Sir* :—In this letter I desire to offer for your consideration some curious and interesting facts connected with the development of the true theory of a safe and comfortable collar for the horse.

If the cartman, with his huge collar, choking the beast in Summer and chilling him through the lungs in Winter, would cut a simple collar out of a piece of white bass, or other light, tough wood, and put that on his horse, it would never heat him, never gall him, never chill him. But the first idea objected is that it is too hard to pull against. Nonsense! Why are not steel bits in his tender mouth too hard? What a discrepancy! How illogical! This sort of collar has been tried, tested, severely tested. And experience has demonstrated that a hard wooden surface, polished and kept clean, is the safest, coolest, best and healthiest collar ever used. In addition; while those heretofore used have been unpopular because of their coarse, ugly looks, and consequently have never been widely adopted, there is another important fact connected with them.—That is their lightness. Instead of an enormous load, as the present head gear is, they only weigh one-third as much, and unite hames and collar all in one. No rough surfaces are worked up in such a collar; no sweat is absorbed to sodden and cook a scald. Fresh air passes round the collar, evaporating the moisture and keeping the skin dry; the hair is not chafed and fretted, as by common collars; hence it is always smooth and handsome, and the horse's health so far as collar disease, a numerous train, is concerned, is always good.

As an illustration of the superior quality of a hard, non-absorbent collar, the following facts are in place and entirely reliable.

A foundry, machine shop and equipment factory was established at a certain place in the South at the opening of the late war, which, as the contest advanced and the Union army menaced the interior, was found to be in an exposed and perilous position. Orders were at once issued for the removal of the entire establishment. And the place of safety selected was over five hundred miles distant. The weather was hot. Roads had well nigh grown up in weeds or washed away. The moving was a herculean undertaking. Wagons were purchased and prepared, horses and mules gathered and harness extemporized. About forty collars had to be made, of wood—cut in a curved line to suit the general form of the shoulders, made round as one's arm and larger—then polished and tied on with ropes passed through each end. The cavalcade moved off, and at the end of the terrible journey all the horses and mules dressed in customary neck gear were horribly galled and nearly ruined, and were for a long time wholly unfit for service, while those that wore the wood were ungalled and ready for work as usual. The collars looked awkward enough. *But the principle is correct.*

Also, several planters known to the author, unable to procure collars during the late war, prepared them from wood, and conducted their business on their plantations with success and comfort to the mules and horses, against the protestations of their neighbors, who were astonished at the successful result.

To make this, if possible, still clearer, let us reason from a man to a horse. That is a logical path to true appreciation of the trials of a horse. Take, then, this illustration :—Two men unused to the axe go into the forest to chop timber. One, over anxious about his hands as he goes to work, calls at a collar maker's shop and gets a yard of collar facing material and wraps it carefully round the handle of the axe, and sets to work. The other uses the naked handle in the ordinary way. At night his hands are somewhat sore, but he works on. The next night finds his hands better, though he chopped all the second day; by the third day he feels no irritation, and works on free from further inconvenience.

How of the first man? Why, his hands are blistered before the first day's work is done. They peel off, and he quits work till they heal. "Yes," says one, "but if he had put gloves on his hands instead of putting a glove on the axe handle he would have got along better." Impossible. I knew a man unused to axe who agreed to cut out a large number of stumps. He put on buckskin gloves to preserve his hands till he got them used to the new task. His hands were badly blistered the first day. The reason was this :—The gloves absorbed the moisture excreted from the palms of the hands and kept the gloves wet. The wet gloves acted like a poultice, softening the skin. When soft it readily peeled, and the hands were—simply glove sore. Just as a cooked shoulder is collar sore, after poulticing the horse with a massive neck girdle or collar.

Yet the same man, from force of custom, would go and put a twenty pound collar, faced with spongy leather or woolen cloth, on his cart horse, and scald and scrape the flesh off his shoulders, never considering the stern veracity of the axe handle argument.

If a sheet of iron were swedged into the shape of a horse collar it would never gall after two or three days' use. But will it fit the horse? Probably not exactly. How many do set well and fit the wearer? A high authority says "not one in twenty." I think scarcely one in fifty. Besides, what fits a horse one time will not fit him six weeks after.

There are from eight to twelve inches in length by three or four in width on the shoulders of horses, where the pressure of the collar is borne when he pulls his load. If the collar fits that amount of surface fairly, and two or three days' use has made his hide firm and tough, will go well afterwards.—The harder the substance covering that surface the better. A glass face to a collar would be the best if it were practicable. The ox bow and yoke are proof to the point. Iron ox yokes and bows will be used, probably, before many years: cushions, never.—Put the cushioned horse collar on oxen, or get up the bows and yoke on the same plan; stuff with straw or hair, and line with woolen cloth, and any man will admit that the ox would be galled and could never work in them. Hard rubber may find some place, and for horse collars may prove invaluable.

My next letter will call your attention to a mode of inflicting pain, and cruel treatment upon the horse, in the use of the present collars, to which your special notice is solicited. Respectfully yours,

FESSENDEN.

LETTER IV.

HENRY BERGH, ESQ., PRESIDENT, &c.—*Esteemed Sir* :—I presume you will be very much surprised at some of the facts I wish to offer for your consideration in this communication. *They relate to the weight of the neck gear of work horses.* And when I speak

of the neck gear I mean to embrace everything that hangs on the neck, as collar, hames, and their straps, attachments, chains and fixtures. Very few persons have bestowed any attention on this curious and important department of horse attire. And yet an amount of cruelty is daily practiced on hundreds of thousands of horses, by compelling them to carry huge and needless fixtures on their necks which when fairly considered will astonish many of their owners.

The weight of these instruments of torture has been ascertained by putting them in the scales.

They may be classified, or arranged by weight into two classes: those running from eight to fourteen pounds in the first class, and those from fourteen to thirty pounds in the second. And that the mere weight of these collars is a great and crying evil, one may see in every street in the city the necks and withers of horses padded with sheepskin—*with the wool next to the tender skin.* Try that on a man in a similar way for a similar gall. Dare an educated surgeon recommend it? All these things belong to to the old stereotyped system of a dark age, that sent to mill the corn in one end of the sack, and the old sacred rock, to balance it, in the other.

It is not our opinion that thirty pounds is a common weight, but thousands are used as heavy, and some even heavier; some weigh forty pounds. But, for illustration, let us suppose such case. The entire neck dress shall weigh thirty pounds. The horse wearing it shall work three hundred days in a year. In that time he has carried on his neck 9,000 lbs. That is equal to carrying a rider weighing 150 lbs. sixty days. If he travels thirty-five miles per day, in the sixty days, he will have gone over a space equal to 2,100 miles. And yet so thoughtless are many men; agents who take charge of large numbers of work horses, and unreflecting owners themselves, that they will tell you as an answer to these reasons "that the horse can stand it." But he does not "stand it."

This evil is worrying the lives out of thousands of them every Summer and every Winter, and all the year round. Can a horse carry 30 lbs. a day on his neck as easily as he can carry 5 lbs.? Can a horse carry a rider weighing 300 lbs. as easily as he can one who only weighs 80 lbs.? Can he carry in a year 9,000lbs. solid weight on his neck, heating his blood and suffocating him in the Summer, and with its frozen perspiration, or frozen rain water, chilling his lungs in Winter—as easily, as healthfully, as gaily as he would carry 5 lbs. and be neither blistered in heat, or have engendered pneumonia in cold? Let common sense give the decision. If a horse shall work fifteen years in a neck-gear of 30lbs. weight, from day to day, that would be equal to carrying a rider of 150lbs. for sixty days, at 35 miles per day, a distance of 2,100 miles in each year—then, in 15 years, the work will result as follows:—The horse's neck load would have been equal to 135,000lbs. in weight, and equal to carrying a rider of 150lbs. three years; and the distance traveled at 35 miles per day equal to 31,500 miles. Suppose now an ample substitute could be placed on the neck of such a horse not liable to any of the objections made against the huge affair now worn, far handsomer, more durable, and not weighing altogether over 5 or 7lbs., would, or would not, the horse and his owner be gainers thereby? Would it then be unworthy the great objects of the society to offer a suitable reward for a new horse collar to supersede the one at present in use, as well as for a new ox-yoke?

Among the best horses and the best cared for, I have found those belonging to the public Fire Department. These fine animals, who, doubtless, know the general import of a fire alarm as well as their keepers, stand harnessed night and day; like a soldier on the eve of battle, they sleep on their arms. What are the facts respecting their neck dress?—They will average twenty pounds each. The trial has been made.

If any one is sceptical as to the effect of hanging so great a weight on their necks, to be carried twenty-four hours in every day by the year, let him go into their stalls and look at their necks himself.—Watch the horse and see him drop his head to move the weight to a fresh spot. Look at the collars and see the sheep skin lining placed as a pad to soften the weight a little.

If, as Job says, "the neck of the horse is clothed with thunder," it was not our workhorse, or he would rive away those monstrous burdens at a stroke.

Every intelligent harness maker understands all these evils, and would readily aid in reforming them were the way fairly opened. But what can a few harness makers do to root out, and entirely change and reform an old, fixed and deeply engrafted usage like this? And then they cannot all be supposed entirely ready. It must involve loss somewhere.

A great wave of public opinion must sweep over the land, and the society over which you preside and kindred associations may greatly assist in lifting that wave and rolling it along.

Owners of large numbers of horses must attend to this matter. Street car, omnibus, express and other similar companies; large mercantile establishments, fire departments, and all men who go for evenhanded justice to the noblest animal God has ever bestowed on mankind, ought to enquire, and when informed, lend their powerful influence to the accomplishment of this work of reform. The comfort, health, durability and longevity of our hourses, call for improvement just at this point.

Respectfully yours, FESSENDEN.

EXPERIMENT IN KILLING GRUBS.—Mr. Skinner of the Herkimer Co., Farmers' Club says, that salt had been recommended as a specific for ridding the soil of worms. Last spring he plowed up an old sod where there was an immense quantity of grubs. He sowed upon three and three-fourths acres, soon after plowing, two barrels coarse salt. A day or two after the application there was rain, which dissolved most of the salt. The ground was then thoroughly harrowed and planted to corn. About half a pint of leached ashes was placed upon each hill of corn. The yield of corn was very large and not a hill was injured by worms. He had no doubt, had there been no application of salt, that the grubs would have destroyed the corn.

CLEANING OUT CHOKED PIPE.—A correspondent of the *Gardener's Monthly*, says: "A neighbor of mine opened a line of cement pipes a quarter of a mile long, by starting a large crawfish in at the upper end. This is the second case in which I have known it to succeed; and I know of a case in which it was tried and failed; but in this case a piston, worked vigorously at the upper end, cleared out the obstruction.

The best food for fattening fowls is said to be ground oats mixed to a dough with water or milk the latter is the best.

INAUGURAL ADDRESS
OF
Hon. E. J. HENKLE,

PRESIDENT OF THE ANNE ARUNDEL COUNTY (MD.) AGRICULTURAL ASSOCIATION.

GENTLEMEN:—Before proceeding to the discharge of the important and responsible duties, to which you have assigned me, in this association, permit me to return to you my most cordial and sincere acknowledgements for the high compliment you have paid me, in calling me to fill the most prominent position in your midst.

From the moment when, from the hand of a most intimate personal friend, I was first informed of your intention to inaugurate a movement of this character, it was my intention and desire to become one of your members, occupying a private position in your ranks, expecting thereby to be benefited much more than to be able to benefit others, but ready and willing, at all times, to contribute my mite, however insignificant it might be, to the common stock and advancement of the interests and objects of the association. But when, on the evening of a former meeting, I was informed that, with great unanimity you had chosen me to be the first President of the Anne Arundel County Agricultural Society, I assure you it, filled my bosom with emotions of gratitude, that all language at my command fails adequately to express.

It is a compliment of which any citizen might well be proud, and I shall cherish its recollection with fondness and pride to the latest period of existence, all the more proudly, since it was unsought and unexpected.

I accept the proffered position willingly, since it is your desire that I should do so; but deeply impressed with its grave responsibilities, and with great distrust, I assure you, in my ability to discharge its duties in a manner which shall be satisfactory to you, or in accordance with the dignity and importance of the great interest involved.

I can only promise you the best efforts my feeble powers can afford, united with a sincerity of heart and earnestness of desire, for the triumphant success of the Society, second to none.

Without any previous experience in duties of a similar character, I shall rely largely upon your kind forbearance and assistance, without both of which, I feel that even a partial success will be impossible.

The question has been asked, "In what manner do you expect to be benefited, and what do you expect to learn by means of an Agricultural Society?" and with your indulgence, I propose, briefly, to present some of the reasons that have occurred to me why Agricultural Societies generally, when properly conducted, should be beneficial to the interests of those engaged in them.

Why, in addition to general reasons, such institutions should prove advantageous, at this particular juncture, in our history; and, *especially*, why an Agricultural Society in Anne Arundel county, at this time, should particularly, be followed by beneficial results.

For the same general reasons that association, discussion, comparison of experiences, competition and a generous rivalry have been found the most efficient means of advancement in almost all the arts and sciences; the same means properly applied, will prove beneficial in the Agricultural arts and sciences.

The history and experience of the past abundantly demonstrates, that the principles and facts, a knowledge of which is essential to the successful prosecution of the useful arts, and tend to their more rapid advancement and perfection, have been more generally disseminated and more practically and usefully taught, by such means than by all others combined; indeed, the rapid and wonderful steps towards perfection that have been made in very many of the useful arts within the present generation is, in my opinion, largely owing to the powerful impetus that association, and the rivalry that it engenders, has inspired.

It is true that books and periodicals, almost without number, are published upon all such subjects, and many of them practical in their nature, and written by men of ample information and experience, and far be it from me to underrate their value or importance; but every one knows, that oral instruction is, beyond all comparison, the most agreeable, the most impressive and the most efficient for the improvement of those who would be instructed.—Hence, public and private lectures are now, almost universally, resorted to, as the very best means that can be devised, for imparting instruction to others.

The sound of the human voice in discussion and demonstration; the conversational and familiar language, in which ideas are conveyed, impart an interest, simplicity and fascination to many subjects which, without such means, would be, to many, unstudied and unknown.

Without descending to tedious details upon a subject, which must be self-evident to every reflecting mind, allow me to cite one instance familiar to you all, of the inestimable advantages of such associations.

The Maryland Institute, for the promotion of the Mechanic Arts, was established more than twenty years ago, in Baltimore city, and its career has been one of most gratifying usefulness and success.

For a fee, almost insignificant in amount, any one may become a member and enjoy its advantages. There is annually delivered a regular course of lectures upon Chemistry, Natural Philosophy and the kindred sciences, amply illustrated by apparatus and experiments, and from time to time, popular lectures and addresses by distinguished individuals upon a wide range of subjects, more or less connected with the objects of the institution.

These lectures and addresses are regularly attended by large and attentive audiences, who cannot fail to derive much benefit from the instructions there given.

A School of Design, in which several hundred students, of both sexes, receive instruction, in all the various branches of Drawing, Painting, Architecture and Engineering is also provided and is perhaps the most useful and interesting of its various departments.

The numbers who have been and still are the recipients of its benefits; the wide range of its course of study; the thorough, practical and efficient character of the instruction, and the inestimable advantages it has conferred upon the mechanic interests of Baltimore and the State, cannot be overestimated, and are but imperfectly understood or appreciated by our people.

From this School of Design have gone forth many graduates, who as Architects, Draughtsmen, Engineers, and Machinists adorn the professions and reflect honor upon their alma mater.

The symmetry of proportion, the beauty of design and the imposing grandeur of a multitude of public and private edifices, in Baltimore city fully attest the ability of her architects and the skill of her mechanics.

An extensive circulating library of well selected works upon history, literature and the arts and sciences, free for all its members, is another feature of the institution, and contributes, in no small degree, to its usefulness.

But the crowning work of all is their annual exhibition. At these are brought together and exposed for public inspection, such a display of the handiwork of the citizens,

in all that pertains to the industrial pursuits, and even the sciences and fine arts, that no one can stroll through the spacious hall of the Institute and attentively contemplate, without experiencing a thrill of honest pride in the noble achievements of the native skill and talent of our great metropolis. No one can witness the countless specimens of ingenious machinery and perfect workmanship; the great variety of manufactued goods, of every description and quality, suited to all our domestic wants; and the beautiful samples of fine art, the work of the School of Design, and not feel abundantly convinced, that the Maryland Institute for the Promotion of the Mechanic Arts, has fulfilled a glorious mission; has conferred inestimable benefits and blessings upon the people; has elevated, dignified and made more honorable, all that belongs to the useful arts, and contributed largely to the wealth and prosperity of that great city.

The founders of this institution should be named amongst the greatest and best of the public benefactors of Baltimore city.

The perfection of this institution, if other instances were wanting, abundantly proves all that we claim, in behalf of similar organizations, for the promotion of the Agricultural arts and sciences. But other instances are not wanting. In our State, and in a sister County, an Agricultural Society has had an exhibition this very season, which was eminently successful in all respects, attracting to its grounds thousands of the citizens, not only of that county but from the city of Baltimore, the remoter parts of the State and also from, at least, two other States. That it has had the effect to give a new impulse, in all the surrounding country, to all the various branches of Agricultural pursuit, is beyond question.

If Frederick county has had such a Fair and such a success, Anne Arundel county can also have the same. Her position is central in the State and accessible, by land or water, from all directions. Her principal city is the State's Capital. Her productions are the same generally, but greater in the variety and quantity, or many of them, than any part of the State. Her climate is unsurpassed, and we believe confidently that the intelligence, energy and enterprise of her citizens are equal to the occasion.

The advantages that have resulted to the mechanic arts and sciences, by association, discussion, competition and rivalry, have also been realized in the Agricultural and Horticultural pursuits, wherever such means have been resorted to with that energy and zeal, that the interest and importance of the subject demand. When Agriculture is conducted in the most scientific, systematic and successful manner, then do Societies for its promotion most abound.

Go to those States, where the cultivation of the soil is most profitably pursued, where a few acres are made to produce and pay as much or better than a large farm in many other sections, and you will find not only State but county and district associations for the furtherance of their interest. Agriculturists there attach an importance to such means, unequalled in any other sections of the land, and their continued prosperity and success prove, conclusively, that they have not overestimated their importance. They are in advance of all others in all that pertains to the art or the science, and next to their natural energy and enterprise they owe it to the advantages of competition and association.

But gentlemen, in addition to these and many other general reasons for association among farmers, there are many *special* reasons why it might be beneficial to our interest at this time. The prosperity of a nation and people is in direct proportion to its agricultural prosperity, especially in a country such as ours.

We are an agricultural people. The vast extent of our public domain, more than can, perhaps, be settled for a century to come; the mildness of our climate, its salubrity, the natural fertility of the soil, and the variety of its productions and the unequalled facilities, for access and transportation, of Oceans, Bays, Gulfs, and Rivers, and the gigantic works of Internal Improvement traversing, almost the entire Continent, make us preeminently the great agricultural nation of the world. The surplus productions of our soil exceed many times over, the wealth of the entire country derived from other sources. No people, upon the face of the earth, can boast of such inexhaustable resources, and such unparalleled advantages, and facilities in this particular, as we. Resources so rich and boundless in their extent and magnitude, that their development may be said to have scarcely begun, and doubtless capable when fully improved of feeding the world.

But as the affairs of the nation have suffered greatly, in the embarrassments incident to the great struggle, from which she has but recently emerged, so have the great agricultural interest, of the land suffered most serious embarrassment and hindrance. And while these influences have been felt in all parts of our country, it is notorious that one portion, that in which the institution of slavery formerly prevailed has felt their paralyzing influence with the most crushing effect.

With the question and subject of emancipation as one of political policy, we have nothing here to do. This is not a political society nor intended to be such; nothing, I am sure, could be more prejudicial to our interest than the agitation of such subjects, and I trust and believe that they will be studiously avoided. It is simply a fact recognized and admitted by all, that emancipation has seriously embarrassed the farming interest of our State by the overthrow of the labor system that prevailed amongst us. Emancipation has been followed, as might naturally have been expected, by demoralization and disorganization. To such an extent have these consequences affected the interest of the former slaveholding sections that real estate has declined greatly in market value and very many of our best citizens find themselves greatly embarrassed in their circumstances; and without some prompt and efficient remedy the trouble must increase rather than diminish.

The labor system of our State, especially that upon which the farmer is to depend, is a question of the most vital importance indeed: and as the difficulties and derangement that afflict us are common to all our section of the State, they constitute, in my opinion, one strong inducement to the farmers, by associations and discussions, to attempt to devise some rules or regulations, upon these subjects, for their common protection

It is no part of my duty, and I shall not attempt to indicate, the precise manner and means by which this most desirable end shall be accomplished. There are no doubt many difficulties in the way, and they may, after all our efforts, prove insurmountable. Yet we contend that, if anything can be effected upon the subject at all, it can be more certainly and effectually accomplished by combination and concert of action.

Whether the emancipated slaves, under the fostering influences of a free government and with assurance of liberal compensation for his labor, and the fullest protection in its enjoyment, will develope that spirit of energy, industry and enterprise, under the impulse of such powerful motives, which the advocates of measures of emancipation predicted, is a problem which is undergoing a practical solution, which is all inportant to the farmers of Maryland.

In the selection and employment of laborers, I feel con-

fident that the preference, in a large majority of instances, is for those who were formerly our servants, and if that portion of our population will exhibit the same spirit of conciliation, good will and forbearance, that all are so desirous of extending towards them, there can be no doubt of a peaceful future for all.

The measures considered most expedient, and the course of action determined upon by a society composed of a large number of the most respectable, intelligent and well known citizens of a county or community, will have much weight, and command more general respect and observance than if recommended by an unorganized few. For this and other reasons, associations might accomplish much that never could be achieved by individual effort.

The cheapest and the best fertilizers to be used upon the various crops we cultivate, is another subject of great magnitude and importance to the farmer. It is becoming annually more and more important to us, and all the light that can be thrown upon the subject, we should avail ourselves of in order to secure the greatest certainty of result, with the least outlay of money. Immense sums are expended yearly by our farmers in manures, guanos and manufactured fertilizers.

In many instances, no doubt, the investment proves advantageous to the purchaser, but in many others, it cannot be denied, that little or no beneficial results are realized, and the farmer, as good as throws his money away.

The great number of these manufactured fertilizers, now thrown upon the market, with high sounding titles and certificates, and the princely fortunes amassed by many engaged in their manufacture, prove conclusively that the profits of the business are very great, and either that the farmer is imposed upon by an article inferior to representation, or that he is made to pay much more, than the intrinsic commercial value of the article he buys.

A thorough investigation and discussion of the merits of the various articles thus offered in the market, and carefully conducted experiments to test their positive and relative value, could not fail to promote largely the interest of our farmers.

The attention of our agriculturists should be directed to the importance of a systematic and scientific method of collecting, saving and preparing, as much as possible, our own manures and fertilizers.

Immense quantities of animal and vegetable refuse, the products of our cities and also of the country, are continually wasted or lost. They contain, in the most desirable form, all the elementary constituents necessary to the reproduction of all the grains, fruits, and vegetables that we cultivate.

Though they do contain ammonia and the phosphates, &c., in great abundance, and in the proper combinations for profitable use, we annually expend immense sums in the purchase of a supply of these same ingredients in the form of guanos imported from the Islands of the Pacific Ocean. The incalculable importance of this subject, I am sure, you already appreciate.

It has grown in magnitude and importance most rapidly of late years, and promises so to continue, and I refer to it here not for the purpose of imparting any particular items of information, but as another instance of the great necessity that exists now amongst farmers for a united effort, and a thorough discussion and investigation of a subject, that so deeply affects their prosperity.

There are many other arguments, of a general character, that might with propriety be urged, in support of the establishment of agricultural societies, at this juncture in our history, but I shall not weary you further upon this point, knowing that your own intelligence will readily suggest what has been omitted, and will proceed to consider very concisely some special and particular reasons, why we should have an Agricultural Society in Anne Arundel county at this time.

The States of the great West, Northwest and Southwest, from the vast extent of their territory, the inexhaustible fertility of their soil, and the great modern facilities for transportation rapidly increasing from year to year, are now, and must still, in the future, be the great grain growing and stock producing sections of the country.

The resources of the territory and people east of the Alleghaneys, and especially that portion contiguous to the sea and adjacent to our large sea-board cities, must, in the future, be directed mainly to manufacture, merchandise, shipping and the horticultural pursuits.

The number of large cities, in close proximity upon our eastern coast, containing millions of inhabitants, has created a demand for the productions of the market garden and fruit farm, that will sooner or later, as it has already in many instances, induce the grain grower to adopt the more lucrative cultivation of fruits and vegetables.

The vast numbers who are consumers daily of such articles, and the great facility with which the productions of the garden may be placed, in good condition, in the markets of cities hundreds of miles distant, has opened a field of surpassing promise to vast sections of our lands, where agriculture has heretofore languished or at least has not amply repaid the husbandman for his toil.

And this is not all. The preservation of fresh fruits and vegetables in hermetically sealed vessels, has added immensely to the demand for almost all such productions.

This business, which has sprung up within a few years, has already assumed gigantic proportions, and may be said to be still in its infancy.

By this process, the most delicious fruits and vegetables are preserved in their primitive condition, and may be transported to any part of the world and kept any length of time.

And the world for our great market it is easy to perceive, how great is the advantage to those sections that can produce, in abundance and perfection, the articles needed.

Baltimore enjoys almost a monopoly in this business, and, in consequence, has become the best fruit and vegetable market in the entire country.

The Chesapeake Bay and its tributaries contain, I believe, the best quality and the largest supply of oysters to be found in the world. Baltimore, by its proximity to this inexhaustible treasure, has become the great oyster packing emporium of the country, and in consequence of this fact, she has also engaged more largely than all other cities combined in the preservation of fruits and vegetables.

These come into the market principally at a season when the oyster is not marketable, thus giving those engaged in the business, employment the entire year round, and affording a most desirable variety to their stock in trade.

I regret that time has not enabled me to present to you many statistics, that are truly surprising, as to the magnitude of this business; its importance as directly affecting those engaged in horticultural pursuits.

It now ranks as the third business in Baltimore city in its proportions.

Thus with the season made perennial, at least five millions of capital is directly invested in it; and the amount invested directly, or indirectly, in all its collateral branches, must be at least three times that amount.

More than three millions of dollars, it is estimated, have been expended in Baltimore the past season in fruits and vegetables alone.

The sales of one house alone, in three months, amount

to more than $70,000 in goods of their own manufacture.

There are about fifty of these establishments in Baltimore city, to three or four in Philadelphia, and not more than six in New York.

The advantage that Baltimore possesses in this trade is our advantage. To us, these gentlemen look for their supplies, and to Anne Arundel county more than to all the State besides. Our soil and climate, by the experience of generations, have been found most admirably adapted to the growth of these products.

The entire length of our county skirts upon the waters of the Chesapeake Bay and its tributaries, affording the most desirable kind of transportation. The inland portions are, or we hope soon will be, intersected by rail roads.

We have the advantage, not only of the markets of Baltimore city, but from thence are in easy communication with all the great sea-board cities of the nation.

These, gentlemen, are a few of the many advantages that we possess, in consequence of our geographical position, soil, climate and natural facilities, and which, in my opinion, we have scarcely begun to turn to advantage.

If we are true to ourselves, and with a becoming zeal, energy and enterprise make a proper use of the means the God of Nature has placed in our power, the future of Anne Arundel county may be made bright indeed, and in these respects, I firmly believe, we hold our destiny in our own hands.

To this end, and for the promotion of these most desirable results, the establishment of an Agricultural Society, in Anne Arundel county, is just now especially desirable.

Let us enter into it with that zeal and determination to succeed, that the importance of the subject and the great interests we have at stake, demand. The pursuit of agriculture, both as an art and a science, is the most pleasurable, the most healthful and the most ennobling of human occupations.

The poetry of rural life has been the chosen theme of poets and painters, both ancient and modern. Its charms are no less inviting to-day than in the days of Virgil and Horace. The study of the beauty and grandeur of the works of nature, as exhibited in the vegetable kingdom, is fit and proper employment for the profoundest intellect.

Let no one seek for a subject worthier of his mental powers. Here are vast fields of unexplored beauty and promise.

Let no one shrink from the performance of its practical duties. It is dignified, honorable and indispensible to man's happiness.

It is true that the farming interests of a section of our country and State are now in a langushing condition, but this has been produced by causes beyond our control.

The worst is certainly past; no change could take place but for the better.

Let us not lie "supinely upon our backs hugging the delusive phantom of hope," or Micawber like, expecting "something to turn up," but let us gird on our armor and go forth with renewed energy and determination to fight our own battles, and as surely as effect follows cause, success will crown our efforts.

A Kentuckian writes to the *Northwestern Farmer*, that of a lot of telegraph poles put up in Kentucky, the chestnut rotted first, the cedar gave way next, the locust stood five years longer, and were still nearly sound.

Poultry to fatten rapidly must be, like hogs, restricted to a limited space. Freedom and fat are incompatible.

Grass Culture in the South.

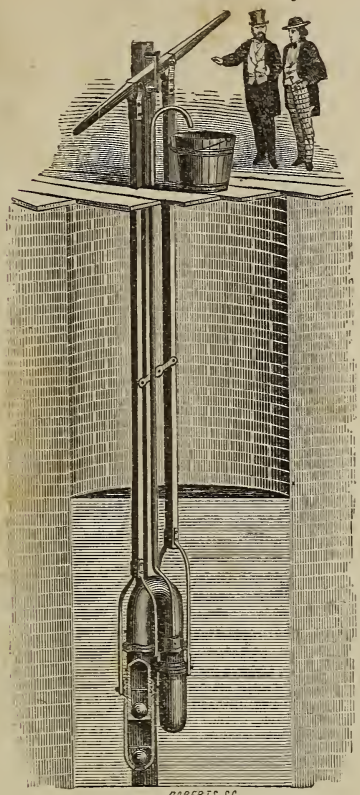
There are so many acres of land in the South that yield no income to the owners, which are capable of producing good crops of grass, and of raising stock worth indefinite millions a year, that this advantage cannot be too often nor too earnestly presented to our Southern readers. Wherever the cereal grass called wheat, or the herbage grass called cheat or chess, will grow, there other imported grasses, coming from the climate where the white race of men originated, may be raised at a profit for stock-growing purposes. It is absurd to say or believe that the grasses called oats, rye, barley, wheat and cheat (all of which are as foreign to our soil and climate as any European or African of the genus *homo*) are better adapted to Southern climate than orchard grass, blue grass, meadow fescue, rye grass, oat grass, barley grass, timothy, meadow foxtail, crested dog's tail, redtop, and a score of others that might be named. More grass will grow in 12 months in the South than in the icy North, per acre; and Souththern farmers have only to turn their attention to the cheap production of this great source of home-made manure, of beef, mutton, wool, horses and mules, to command Northern markets and add ten fold to the value of their plantations.

Nothing depreciates the value of land so much in the estimation of every white man from the Northern States and Europe as its naked surface and the forbidding want of green herbage. Cover the extreme nakedness of the land with a carpet of Bermuda grass, if nothing better is available. Rightly managed, this Southern grass will keep a large amount of farm stock. It will pay a large interest on the present price of farms, with very little labor and the constant improvement of the soil. An annual and reliable income from land with little cultivation and few laborers, is what the South most needs in an agricultural way. Grass culture will confer this great benefit, including stock-raising and wool-growing.—*Turf, Field and Farm.*

Rye on Sandy Soils.—The *Germantown Telegraph* in an article on Rye, says: None of the cereals can, in fact, be cultivated on a soil which contains eighty-five parts in one hundred of sand, except rye.—But it may be remarked that the richer the land is, the more luxuriant will be the rye, unless, indeed, it be so replete with humus as to induce a plethora, which proves always detrimental if not fatal to the grain. All sandy lands, and even those which nearly approximate in their nature the character of sandy loams, part with their humus much more readily than clayey soils. This renders them capable of producing good crops of rye with less of soluble humus than would be necessary to capacify them for the production of a crop of wheat or corn.

MORRELL'S FIRE ENGINE, DEEP WELL, AND FORCE PUMP,

Double Acting and Anti-Freezing.



This Pump is acknowledged by all mechanics who have seen it, to be, its construction, the most simple, reliable and durable Pump now in use. They are made of Iron or Brass, as desired. The Valves are solid Rubber Balls, which, as arranged in this Pump, are as nearly indestructible as anything we can use. It is a splendid Fire Engine, and each Pump is so constructed that a Hose can be attached without delay. It works perfectly in any depth of well. It cannot freeze in winter. There is no Suction Valve or Packing to get out of order. It is more durable than any other Pump now in use. The prompt action of these Pumps, their simplicity of construction, durability and reliability, give them a character of excellence unequalled by any other Force Pump in use.—They are the *best* Pumps for Railroad Stations, Factories, Elevators, Tanneries, Breweries, Manufacturing Establishments generally, for steamboats and ships use, for Hotels, and it is what all Farmers and Stock Raisers need.

This Pump is what all want for Home protection, and will pay for itself in a short time, by the reduction in rates of insurance. Poole & Hunt, Manufacturers and General Agents, 161 North Street, Baltimore, Md.

HORACE GREELEY purposes to write, during the year 1869, an elementary work on Political economy, wherein the policy of Protection to Home Industry will be explained and vindicated. This work will first be given to the public through successive issues of *The New York Tribune*, and will appear in all its editions—Daily, $10; Semi-Weekly, $4; Weekly, $2 per annum.

Imported Jersey Cattle for Mobile, Alabama.

The following is a description of 18 cows and 2 bulls shipped on board the "Azuline," November 11th, 1868, and left the port of Southampton for Mobile on Thursday, 12th November, 1868. They were consigned to Messrs. D. Wheeler & Co., agents, Mobile, Alabama. The herd was imported by Edward Parsons Fowler, of St. Clements, Jersey, the sole and only resident importer for the last thirty years. Mr. Fowler is the author of "*The Alderney and Guernsey Cow; Its Nature and Management*"—a very valuable little book, treating on this popular breed for the dairy of private gentlemen. The following is the description as received by Samuel Sutton, Esq., of Howard county, Maryland, who some years since visited the Island and purchased for this country Alderney cattle, Lincoln sheep, Derby Game fowls, &c. The flock of sheep was destroyed during the war, but he has still some fine specimens of the Alderneys. Through this importation our Southern friends can infuse the Jersey blood in their native stock:

1. A two-year old fawn grey and white Heifer, calving in January, 1869, gained the 1st prize of the Agricultural Society, Jersey.
2. A two-year old, grey, dun and white, black points, calving in January, 1869, a very high class heifer for symmetry.
3. A two-year old Heifer, grey and white, calving in January, 1869, a most promising dairy heifer.
4. A two-year old Heifer, red, fawn and white, calving in January, 1869, a prize heifer (parochial prize.)
5. Two two-year old Heifers, calving in January, 1869.
6. No. 6 in February, 1869, a handsome pair of solid colored heifers.
7. A two-year old Heifer, yellow, fawn and white, calving in March, 1869, a remarkable well grown animal.
8. A two-year old Heifer, brown, fawn and white, calving in January, 1869, a color much prized, and very hardy.
9. A two-year old Heifer, yellow, fawn, solid color, calving in December, 1868, truly handsome and color very rare.
10. A two-year old Heifer, grey and white, calving in March, 1869, bred from the cow so famed, "Duchesse"
11. A four-year old Cow, grey dun and little white, calving in December, 1868. A cow a dairy of herself.
12. A two-year old Heifer, lemon fawn, calving in March, 1869, bred from the highest class cattle of the Island.
13. A two-year old Heifer, yellow, white, calving in December, 1868.
14. A two-year old Heifer, yellow, white, calving in December, 1868.

NOTE.—These are two splendid heifers, a perfect match and very large.

15. A three year old pure grey dun heifer, in calf to Bull Rolla, in this importation.
16. A four-year old, fawn and white Cow, calving in January, 1869. A large productive Cow.
17 and 18. Two splendid yearlings, grey and white, in calf to prize Bulls.

Bull "Rolla," solid color, 2½ years old, magnificent animal, bred by Mr. Cowdry. Winning the great National Prize in France.

Bull "Casarea," a solid color of great promise, very neat, and from the best blood of the Island. Aged 16 months.

FREDERICK COUNTY AGRICULTURAL SOCIETY.—An election for the officers of this society took place in Frederick city on Saturday, December 5th, and resulted in the election of the following gentlemen for the ensuing year: President, C. K. Thomas; Vice-President, John Loats; Secretary, H. B. Koehler; Treasurer, Calvin Page.

THE

MARYLAND FARMER

AT $1.50 PER ANNUM,

PUBLISHED ON THE 1st OF EACH MONTH,

BY

S. SANDS MILLS & CO.

No. 24 South Calvert Street,

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BALTIMORE.

S. SANDS MILLS, E. WHITMAN, } PUBLISHERS AND PROPRIETORS.

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RENEWALS FOR 1869.

We would again remind those of our readers, whose subscription commences in January, that the present number is the beginning of a New Year.—An early renewal is solicited—which can be done by enclosing us $1.50. At the same time an effort might be made by each of our old subscribers to send us a *new* name for the year 1869.

RAMIE.—We call the attention of our numerous far South readers to the essay on Ramie, by Mr. Bruckner, of New Orleans. Mr. B. has given the subject much attention, and expresses the belief that it will become an important staple of the South.—We were recently visited by Wm. Grange, Esq., Imperial Ottoman Consul at Baltimore, who left with us a fine specimen of this fibre prepared chemically, and which has a fine, glossy, silk-like appearance, and is about three feet long.

The cultivation of broom-corn is extending in Virginia. The yield averages a net profit of $44 per acre, not counting the seed, which is valuable for feed.

THE NEW YEAR---SALUTATORY.

In entering upon the threshold of a new year it is our pleasant duty to greet with a few words, both of thanks for the past and good wishes for the future, those of our readers with whom it is the privilege of the *Maryland Farmer* to be brought into monthly communication. Looking back upon the year now gathered to the spectral host of years that were before it, we seem to have travelled but a short distance together, yet in recurring to the twelve numbers of the *Farmer*, which have constituted our milestones on the road, we see that the time we have passed together has not been so short, and we sincerely trust has not been altogether uselessly or unprofitably occupied. If agricultural progress has not yet reached that stage of thoroughness and efficiency which we sincerely believe it is ultimately destined to attain, some steps have at least been taken in the right direction. Our Agricultural Society has been reorganized since the war upon a judicious basis, and again promises to lend its efficient aid to the dissemination of that practical knowledge of agriculture and its cognate pursuits which it is so highly important should be placed within the reach of all who are interested in economizing field labor, in bringing the soil to the highest point of fertility of which it is capable, in improving the breeds of cattle, in passing judgment upon the merits of various kinds of labor saving machinery, and in promoting an interchange of views among experienced men. Thus the new year comes to us with a fair share of promise, so far as our material interests are concerned, and we unite with our friends in earnest hopes for a plentiful and favorable harvest, and for a relief from those troubles with which for some years past the vocation of the farmer has been beset. For the *Maryland Farmer* we also bespeak the kindly welcome of its friends, trusting to make it even more useful in the future than it has been in the past.—And so, with a New Year's greeting of health and happiness to all, we close our salutatory.

NAPOLEON III STRAWBERRY.

The finest Berry for Amateur Culture

AND

THE MARYLAND FARMER for 1869.

On receipt of $3.50, the Messrs. Edward J. Evans & Co., of York, Pennsylvania, will furnish by mail, postage paid, *one dozen plants* of Napoleon III, and the *Maryland Farmer* for 1869. This offer is made by these gentlemen with a desire to induce their customers to take a good agricultural and horticultural magazine in connection with their stock. We refer the reader to their advertisement.

Cause of Failure in Wheat Crop.

FREDERICK CO., MD., Dec. 18th, 1868.

Messrs. Editors :—I write to ask you, or through your very valuable publication, the following question—hoping, as I do, that you or some one or more of your practical subscribers will answer—as to what I may safely attribute the almost entire failure in my wheat crop, seeded about the latter part of September, 1867; red wheat being the variety used—prepared and put in in the following manner: We soaked ten bushels at a time in lime water, using air-slaked lime, the wheat remaining in soak not more than twenty minutes, or just allowing us time enough to skim off all the light grains and foreign matter which would float, such as cheat, garlic, &c. The wheat was then spread upon the barn floor, and sprinkled with lime, which dried it off in a few minutes very nicely; it was then seeded with the drill, say six pecks to the acre, dressed with not less than three hundred pounds of Bradley Coe's phosphate per acre, on blue slate soil, which generally produces fine crops of wheat. The wheat came up well and continued to look in good condition until harvest, when we made the terrible discovery that only about one-third of the pods or capsules upon the wheat head contained in them any grain at all. What wheat there was was plump and very nearly held out in weight; this being the third time we had seeded this variety upon this farm, the crop preceding this being very heavy, the treatment of each being alike, except the soaking and sprinkling with lime. AN OLD SUBSCRIBER.

We should be pleased to hear from our correspondents on the above subject.

SUPERPHOSPHATES.

To the Editors of the Maryland Farmer:

Farmers and planters having been very much imposed on by spurious superphosphates, it has occurred to me that if the editors of the *Maryland Farmer* will give us the necessary information, each farmer can make at less cost all the superphosphates he may need on his farm, and then be sure they are good.

What is the price of sulphuric acid by the carboy?

What amount of ground bones will a carboy decompose?

When decomposed, what substance is best to mix with and dry off the superphosphates?

Is there any incompatibility between gypsum and superphosphates?

What is the price of ground bones per ton?

OLD VIRGINIA.

[We would refer "*Old Virginia*" to January No. of 1868, p. 10, and March No., same year, p. 87 to articles on the subject of Superphosphates, giving much of the information sought. The price of sulphuric acid will be found regularly under the head of "markets."]

DRYING PURE BONE DISSOLVED IN ACID.

The following query is put by a correspondent at Washington, Wilkes county, Georgia, under date of November 27th, 1868:

Let me know how pure bone dissolved in acid is dryed without using anything else. There are some parties making it, or rather preparing it, who say it cannot be dried without some foreign matter to mix with it. An early reply will much oblige an old subscriber to your paper.

There is no necessity for adding anything as a drier to a superphosphate made from pure ground bone. A little care is necessary to prepare it, but the sulphate of lime formed by the reaction of oil of vitriol on the phosphate in the bones is always sufficient to dry the mixture, if it it has been properly made. In certain guanos, containing considerable quantities of iron and alumina, it is necessary to dry the sulphated combination with other materials, and this, too, even although they contain abundance of lime, both as phosphate and carbonate. In perfectly fresh bones a pasty mass is often formed which dries slowly on account of the absorption of water by the animal matter present, but this difficulty is increased by an scientific manipulation. In cases of this kind, a gentle artificial heat, such as that of exhaust steam or a moderately warm kiln will facilitate the drying. See *Maryland Farmer* for January, 1868, page 10, and March No., page 87, for other information.

FREDERICK COUNTY (VA.) AGRICULTURAL SOCIETY.—A number of citizens of Frederick County, met at the courthouse, in Winchester, on Monday, November 30th, and entered into a prelimiary organization with T. B. Wood, Esq., for chairman, and C. L. Grim, Esq., as secretary. After the transaction of some necessary details, a resolution was adopted authorizing the president to appoint a committee of 12 gentlemen from this and surrounding counties, to report a plan for the organization and a constitution, and solicit persons to become members. The following gentlemen were appointed:—J. W. Ward, B. Randolph, of Clarke; J. H. Burgess, J. C. Baker, J. S. Magill, R. L. Baker, of Frederick; G. A. Hupp of Shenandoah; L. Osburn, of Jefferson; J. T. Pierce, of Hampshire; W. Van Metre, of Hardy; T. N. Ashby, of Warren; W. Coe, of Berkeley.

The committee was directed to report at a stated meeting, and citizens of the lower Valley were requested to join the the organization

LEACHED ASHES FOR APPLE TREES.—M. B. BATEHAM says in the *Ohio Farmer* that leached ashes are the best manure that can be applied to old orchards on sandy land. Ashes should be gatherd in the winter time, when the expense of hauling is not so great as at most other seasons.

SHORT COMMENTARIES.

BY PATUXENT PLANTER.

The Annual Report from the Hon. Horace Capron, being the seventh annual report from the Department of Agriculture, is the best and most practical ever issued from that important position of Commissioner of Agriculture. It evinces an administrative talent of high order, zeal in the cause, a correct perception of the duties of the office and fitness of character to perform those duties. It will commend itself to all who take any interest in the successful working of a branch of the Government destined to promote so greatly the welfare and prosperity of our people and nation, if managed in conformity with the laudable designs and intentions of of the great and patriotic men who first suggested and recommended it. The present Commissioner seems to be the first to fully comprehend what it was intended to be, and certainly the first to arrange the business of the Department upon a systematic plan, by which its sphere of action will be commensurate with public expectation, and its usefulness to the utmost extent attained, so as to make it worthy the fostering care of a great agricultural and commercial nation. The Report will be read with much pleasure by the mass of Agriculturists, and cannot fail to impress all with the feeling that this Department, capable of so much good, is at last in right hands and is being conducted economically, ably and usefully. It is no longer a sort of *pension* office, and receptacle for all the old and worthless seeds to be found in the land, but is a great Department of the Government working out its mission of good upon a wide and enlarged system reflective of the greatness and power of our wide-spread Republic. The Report treats of Agricultural Education—Southern Agriculture—Canadian Reciprocity—International Exchanges—Statistics and other subjects, in strong, concise, business-like language, being in that respect worthy of imitation by others who have occasion to make annual reports. After alluding to the importance of Agriculture, Mr. Capron says: "It is the function of this Department to aid this great foundation interest in all legislation affecting it, in the diffusion of practical information concerning it, and in the dissemination and testing of rare and untried plants of other countries, that promise to enrich its store of production. This work involves a familiarity with the latest discoveries of the natural sciences and a knowledge of the technicalities of many arts, with a fund of practical knowledge and sturdy sense that intuitively judges aright in all the actualities of every-day life. If its true object and proper function is understood, a work of great magnitude and importance is opened, requiring a variety of skilled official labor, and special training, in preparation for it. A beginning has been made, small it may be, but foreshadowing, it is believed, a future fraught with good to agriculture and to the country. Difficulties have been encountered, and discouragements met, but the obstacles are disappearing and shadows lightening, and the way is open for rapid progress and a successful career."

This shows the Commissioner properly appreciates the importance and high duties of his office.—Possessing various and extensive acquirements, strong practical talent of observation, long practical experience in agricultural life, a master in the theory and practice of the science of Agriculture, and withal a man of industry and zealous in a cause he loves, none could more usefully to the public or more creditably to himself perform the arduous and vastly important duties assigned to him.

Labor-Saving Machinery.

In the new state of things, and scarcity of labor, labor-saving implements are constantly enquired about, and it is a wonder that those who have invented such as are new, do not take more care to introduce them to the farmers, by advertising them, setting forth their advantages and qualities and the prices—I allude to the "Sulky Plows, Cultivators, &c.," and the "Corn Huskers," "Potato Planters" and "Diggers." I have seen but one "Sulky Corn Cultivator," and that seemed to be well adapted to the purposes intended, but the gentleman who owned it did not seem to place a very high estimate upon it. He said that the corn rows must be very straight for it to do good work, and only suited for drill culture. Now, it is true, drill culture is said to be best for corn, and rows of corn or drills for any crop should be straight, yet in our country you rarely see straight rows, and drill culture requires too much cultivation with the hoe. These are the popular objections. But if with a Corn Drill and Sulky Cultivators, one man and two horses will make as much corn as four men and four horses, then we might well afford to take time and pains to learn to run straight furrows and drills. Most of these implements cost too much for general use. Why should patentees be so exorbitant in their charges? If reasonable prices were asked more would be sold and more gain realized by the machines. Mowers and Reapers are far too high in price for the actual cost in making. What the farmers want most, just now, is a Corn Husker and Corn Harvester, of which you speak, in the December No. of the "Maryland Farmer," as having been exhibited at the late Illinois State Fair. If it answered the public expectations, why does not the exhibitor publish it in your valuable paper, and let us have the report of the committee as to its merits, mode of working, price, etc.?

The same may be said of the Corn Husker, made by the National Corn Husker Company of Indianapolis, Indiana. If it be the wonderful machine it is represented, and the price be not too great, why is it not brought into *national* notice, by explanatory advertisements in the agricultural papers of the different States? With the Sulky Plow and Cultivator, the Drill, and Harvester and Husker, even the lazy farmer may laugh at the scarcity and high price of labor. That mechanical skill and genius is awake to the interests of the farmer, and exercised to alleviate his toil and supply the place of manual labor, is noticeable from the interesting fact that the number of agricultural inventions now annually patented is more than fifty fold greater than it was twenty years ago. In 1847 the number of Agricultural patents granted was 43; in 1863 they increased to 390; in 1866, to 1777, and during the present year they will exceed 2000.

Agricultural Associations.

It is a hopeful and gratifying sign of the times to see these associations again coming into life in Md. Montgomery and Frederick each had the past year very successful exhibitions. How long shall it be before Talbot and Prince George's revive those creditable Fairs they held in years past, so profitable and pleasant to their people and the host of "strangers that came within their gates"? Noble old Anne Arundel has at last roused herself like a lioness, as she is, and at last organized a Society. No county in the State can, if she will, beat her in a great exhibition of varied products. She is famous for her fruit and market gardens, her vineyards and wine, tobacco, grain and stock. Some of the best farmers in the State are to be found in her borders. Many of her farmers are gentlemen of talent, education, refined taste and practical knowledge in farming and horticulture; possessed of wealth, they have beautiful homesteads, highly cultivated farms and highly decorated grounds, giving evidence of those tasteful and substantial rural comforts and pleasures that "maketh the heart of man glad." In addition to these County Fairs, it is now certain, that the State Mechanical and Agricultural Association will hold its meeting during the year, and rival, if not excel her Sister States in the grandeur of its Exhibition. Thus a spirit of generous rivalry will be excited among our people, and a stimulant given to all classes, which will result in increased prosperity, and redown to the credit of Maryland.

A Frederick city, Md. correspondent writes:

"And last but not least, continue the *Maryland Farmer*, which I have been reading for years, and would not be without it for several times its cost. I wish you great success."

Cotton Culture, and Preparation of the Manure.

The following letter from Mr. Dickson, may prove of interest to many of our readers in the Cotton States. It is his mode of treating the land and preparing the manure for the Cotton crop:

SPARTA, GA., December 4th, 1868.

Messrs. JOHN MERRYMAN & Co., *Baltimore, Md.*

Dear Sirs:—You wish my plan of using the Dissolved Bone, Guano and Plaster which I obtain from your house to send to your customers with each lot of manure shipped.

They must remember that it is only a manure, and used as any other, with this difference: Being more readily soluble than any other article, it is more likely to waste from exposure. For further information on this point I refer to the *Southern Cultivator* for 1869, published at Athens, Ga.

PLAN OF CULTIVATION.

Lay off furrows four feet distant from each other with a land shovel plow, by running twice in the same furrow to the depth of eight or ten inches; deposit the manure in the bottom of the furrow with the hand or guano sower, from 100 to 600 pounds per acre, after being well mixed; then run on each side of the furrow, with a long scooter, once or twice, as you may have time, then on each side of the ridge with a good turn plow. In the bottom of each turn plow furrow run a long scooter plow, then split out the ridge that is left with a large shovel plow, and the work is done until planting time.

PREPARATION OF THE MANURE.

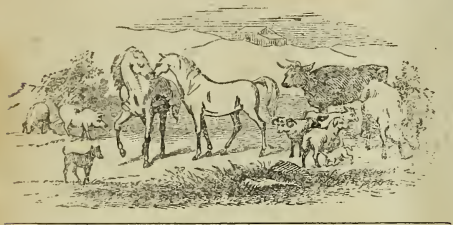
Empty four sacks of Guano on a floor, beating the lumps fine; add 600 pounds Dissolved Bones, mixing with a hoe or shovel; add Plaster and Salt, and mix all thoroughly. Commence the operation so that you may get through planting by the 20th of April or the 1st of May. I prefer the Dickson Select Cotton Seed. *If the work is properly done you will never fail.* Truly, yours,

DAVID DICKSON.

OUR RECEIPT FOR CURING MEAT.—Take one gallon of water, take 1½ lbs. of salt, ½ lb. of sugar, ½ oz. of saltpetre, ½ oz. of potash. In this ratio the pickle to be increased to any quantity desired. Let these be boiled together, until all the dirt from the sugar rises to the top and is skimmed off. Then throw it into a tub to cool, and when *cold*, pour it over your beef or pork, to remain the usual time, say four or five weeks. The meat must be well covered with pickle, and should not be put down for at least two days after killing, during which time it should be slightly sprinkled with powdered saltpetre, which removes all the surface blood, &c., leaving the meat fresh and clean. Some omit boiling the pickle, and find it to answer well; though the operation of boiling purifies the pickle by throwing off the dirt always to be found in salt and sugar.

If this receipt is properly tried, it will never be abandoned. There is none that surpasses it, if so good.—*Germantown Telegraph.*

Live Stock Register.



HOW TO BREAK A MULE.

The following suggestions about breaking the mule are from a new and interesting book on the subject, by Harvey Riley, Esq., Superintendent of the Government corral, Washington, and published by Dick & Fitzgerald, New York.

"Don't fight or abuse him. After you have harnessed him, and he proves to be refractory, keep your own temper, slack your reins, push him round backward and forward, not roughly; then if he will not do what you want him to, tie him to a post, and let him stand there a day or so without food or water. Take care also, that he does not lie down, and be careful to have a person to guard him, so that he does not foul in the harness. If he will not go after a day or two of this treatment, give him one or two more of it, and my word for it he will come to his senses and do anything you want from that time forward.

The only way to keep a mule from kicking you is to handle it a great deal when young, and accustom it to the ways and actions of men. You must, through kindness, convince it that you are not going to harm or abuse it; and you can do that best by taking hold of it in a gentle manner every time it appears to be frightened. Such treatment I have always found more effective than all the beating and abusing you can apply. The mule is peculiar in his dislikes. Many of them, when first harnessed, so dislike a blind bridle that they will not work in it. When you find this, let them stand for a day or so in the blinders and then take them off, and in forty-nine cases out of fifty he will go at once."

The following brief history of the mule we also extract from the same source:

ANCIENT HISTORY OF THE MULE.

The mule seems to have been used by the ancients in a great variety of ways; but what should have prompted his production must for ever remain a mystery. That they early discovered his great usefulness in making long journeys, climbing mountains, and crossing deserts of burning sand, when subsistence and water were scarce, and horses would have perished, is well established. That he would soon recover from the severe effects of these long and trying journeys must also have been of great value in their eyes. But however much they valued him for his usefulness, they seem not to have had the slightest veneration for him, as they had for some other animals. I am led to believe, then, that it was his great usefulness in crossing the sandy deserts that led to his production. It is a proof, also, that where the ass was at hand there also was the horse, or the mule could not have been produced. Any people with sufficient knowledge to produce the mule would also have had sufficient knowledge to discover the difference between him and the horse, and would have given the preference to the horse in all service except that I have just described. And yet, in the early history of the world, we find men of rank, and even rulers, using them on state and similar occasions; and this when it might have been supposed that the horse, being the nobler animal, would have made more display.

The Scriptures tell us that Absalom, when he led the rebel hosts against his father David, rode on a mule, that he rode under an oak, and hung himself by the hair of his head. Then, again, we hear of the mule at the inauguration of King Solomon. It is but reasonable to suppose that the horse would have been used on that great occasion, had he been present. On the other hand, it is not reasonable to suppose that the ass, or anything pertaining to him, was held in high esteem by a nation that believed they were commanded by God, through their prophet Moses, not to work the ox and the ass together. It must be inferred from this that the ass was not held in very high esteem, and that the prohibition was for the purpose of not degrading the ox, he being of that family of which the perfect males were used for sacrifice. The ass, of course, was never allowed to appear on the sacred altar.—And yet He who came to save our fallen race, and open the gates of heaven, and fulfil the words of the prophet, rode a female of this apparently degraded race of animals when He made his triumphal march into the city of the temple of the living God.

CARE OF HORSES.

The spring is the most trying time for teams, but those that have been worked steadily through the winter are the best able to stand the increase of heat and length of days.

I have driven horses at the plough and harrow and seen them growing poorer and weaker each day. They were worked from 7 o'clock in the morning till noon, then after a rest of an hour to eat, were worked from one o'clock till 8 P. M., without rest

—being left standing in the field while a hasty supper was eaten by the driver.

Ten hours a day is long enough to work a team; and if a farmer cannot do his work in that time he should get another team. He should have the harness well fitted, and not use the same collar on a twelve-hundred-pound horse, that he uses on an eight-hundred-pound colt.

Galls are the result of three causes—friction, pressure and heat. Friction of tugs or traces, as the horse turns to the right or left, causes galls upon the legs, while other straps gall other parts. The backpad and the collar causes galls by pressure and heat. When a team stops to rest on a sultry day the collar should be lifted from the shoulder, to cool it.

If the horse becomes galled, there are various liniments and solutions that will speedily cure the sore, if the cause that produced it are removed. Among the remedies are alcohol and saltpetre, white lead, tincture of arnica, salt and vinegar. A bit of alum added to either of these mixtures might be beneficial. But it is better to prevent than to cure. When a horse comes in from work, a free use of a sponge and luke-warm water about the shoulders, legs and feet will add to his comfort, and in addition to good feed will tend to increase his usefulness.—*Cor. in N. E. Farmer.*

The Horse and His Diseases.

J. R. Freeman, V. S. of Richmond, Va., publishes a communication on the above subject in the Richmond *Whig*, and promises a few articles "upon the horse, his diseases and their causes, and the popular errors entertained and practiced, or allowed to be practiced upon the most useful of our domestic animals." The following we extract from his first letter:

The majority of the diseases of the horse are traceable to man's inattention and stupidity. All intestinal troubles are caused by injudicious feeding.—There is not enough attention paid to properly comminuting his food, or regularity in time of feeding. Too long abstinence from food, with stables badly ventilated and worse drained, are also sources of much evil; even over-exertion and consequent exhaustion, without proper stable management, is sure to produce disease. * * * * *

I will, at some future time, write you a series of articles upon "Popular Fallacies," viz: botts or grubs, sweenie, shoulder and foot lameness, chest-founders, founders, hooks, wolf-teeth, shoeing, &c., &c. Hollow-horn in cattle, by the way, is currently believed to be a disease, whereas it is merely a symptom. This being the case, why allow the absurd practice of boring a hole into the horn, and filling it up with salt, vinegar and the like? This is another vagary practiced by the doctors. What would a physician be thought of who would bore a hole into a patient's leg or arm, because the extremities were cold? The animal is so entirely given up into the hands of man, and is so submissive to his treatment, that the active supervision of its master is doubly necessary for its protection.

USEFUL RECIPES.

Cure for Hog Cholera.—A writer in the Monthly Report of the Department of Agriculture gives a very simple remedy for hog cholera, which he says has never failed as a preventive, and in every instance wherein from neglect the disease made its appearance, he succeeded in curing it in a few days.

Two or more large barrels are procured and placed conveniently to the kitchen. Into these deposit all the pot-liquor, dish-water, and greasy water of any kind, refuse pieces of bacon and a few bucketfuls of soap-suds. Let it stand a few days or until fermentation begins, then add to each barrel one bushel of fine charcoal, a half-bushel of corn-meal, one handful of salt, and a half pound of copperas. Let it stand a short time so that the coal may become thoroughly saturated with the liquid, then pour it into troughs made for the purpose.

One barrel thus prepared, he says, if given once or twice a week, will be sufficient for fifty hogs, and prevent cholera and keep them in a healthy condition.

Remedies.—A correspondent of the *Prairie Farmer* furnishes the two following remedies, which he says "should be printed in gold:"

Cholic, or Scours in Horses.—Give a half tumbler of spirits of camphor, in a pint of warm water (cold will do); if not relieved in fifteen minutes, repeat the dose. Give nothing else. I have never known it fail in a practice of twenty years. No bad effect.

Nail in the Foot.—To relieve from the terrible effects of running a nail in the foot of man or horse, take peach leaves, bruise them, apply to the wound, confine with bandage, and the cure is as if by magic. Renew the application twice a day, if necessary, but one application usually does the work. I have cured both man and horse in a few hours, when they were apparently on the point of having the lock-jaw. These receipts remembered and practiced, will save many valuable lives.

Curing Poll-Evil.—James Seafield, Fairfield, Md., writes the *Rural New Yorker*:—"I had a horse that was pronounced incurable of the poll-evil. As the horse doctor had given him up to die, I thought I would try an experiment. I laid open the swelling with a knife and forced it to run; after it had run twenty-four hours I washed out the incision with soap and water and sprinkled quick lime in the cavity. This process of washing out and liming I repeated every twenty-four hours for about two weeks, at the end of which time the swelling had gone down and the sore healed over. This I did two years ago this present November, and there is no sign of the return of the poll-evil. I would advise a trial."

Sore Mouth in Sheep.—Sheep frequently become sore in the lips, from feeding on St. Johns wort and other foul plants; or from unhealthy blood. One of the best flock-masters whom we ever knew, gave us this as his method of cure: Take fine Saltpetre and mix it with pig's foot or other soft animal oil. With a lather of castile soap wash off the scabs from the sheep's lips and anoint the parts affected with mixture above specified. Another cure for sore lips in sheep, is to wash with a steep of gold-thread in water.—*Ohio Farmer.*

Abscess.—What is the matter with my cow? She has a sore between her four teats; has been sore for three months. It smells like the hoof ail. D. A. Dyas.

Your cow has an abscess in her udder, probably caused by a blow from the horn of some other cow. It should be laid open, and syringed out every day with a solution of chloride of zinc two drachms; water one pint.—*Western Rural.*

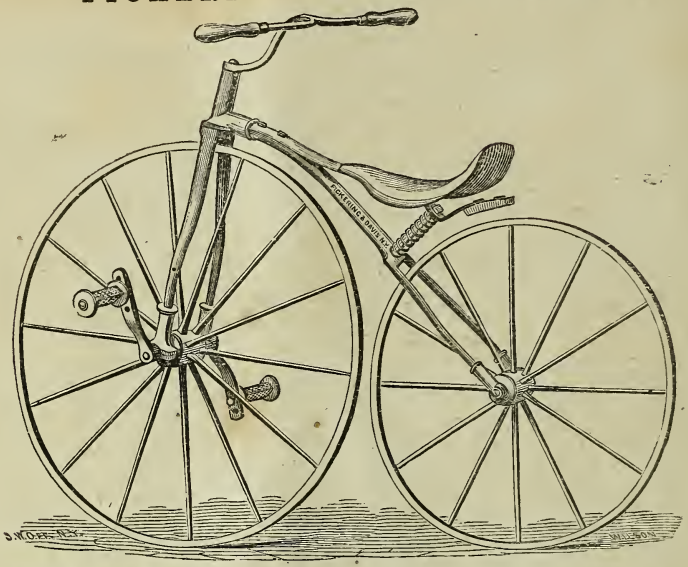
Cure for Foot Rot in Sheep.—Pare all of the hoof off that is affected, (be particular in this,) then apply a wash made of nitric acid, one ounce, and an old fashioned penny dissolved in it. One or two applications will surely affect a cure.

Sure Cure for Fouls in Cattle.—When all other remedies have failed, I have seen this troublesome disease cured immediately by the application of coal oil, the same as we burn in our lamps—refined oil. One application is usually sufficient.

Warts on Cows.—Noah Whipple, Jr., says in the *Boston Cultivator*, that warts on cow's teats may be readily removed by washing frequently with alum water made by dissolving two ounces of alum in a pint of soft water.

We all have a direct personal relation towards God, and cannot avoid its responsibility.

PICKERING'S VELOCIPEDE.



The accompanying cut represents one of these novel machines, which just now is attracting so much attention. The exhibition recently given by the HANLON BROTHERS, at the Holliday Street Theatre, in this city, was witnessed with great interest by large numbers, and the celerity and apparent ease with which they managed the *veloce* was truly wonderful. The cut and description will give our country friends some idea of its working; we are indebted to the *American Artisan* of New York, for both.

"The velocipede seems destined to come into use in this country—though perhaps not soon to the extent that it has in France. It is so attractive and fascinating, developing so much strength and skill, and affording so great amusement to the rider, that its votaries and students will be numerous.

Of the various kinds, four, three, and two wheeled, the latter is the only artistic one, and except for unusual occasions, we would say never has the driving wheel more than three feet diameter; for ordinary use 33 inches is a good size, while for boys we would say 28 to 30 inches.

At first sight one would suppose it to be a formidable undertaking to mount and steer one of these two wheeled articles, but a few hours practice, causes the student to feel quite master of the ceremonies.

The velocipede which we illustrate this week has been designed by T. R. Pickering, of this city, and made by Pickering and Davis, 144 Greene street, New York, and differs materially from the French in many points; it is more simple and durable, lighter, stronger, and cheaper. The reach or frame is made of hydraulic tubing. Pickering's is made by gage, just as sewing machines, Waltham watches and Springfield muskets are made, so that when any part wears out or is broken, it may be replaced at an hour's notice. Its bearings are of composition or gun metal, and the reach or frame is tubular, giving both lightness and strength. The hub of the hind wheel is bushed with metal, and the axle constitutes its own oil box. It differs from the French *veloce* in the arrangemet of the tiller, which is brought well back, and is sufficiently high to allow of a perfectly upright position in riding. The stirrups or crank pedals are three sided, with circular flanges at each end; and as they are fitted to turn on the crank pins, the presure of the foot will always bring one of the three sides into proper position. They are so shaped as to allow of the use of the fore part of the foot, bringing the ankle joint in play, relieving the knee, and rendering propulsion much easier than when the shank of the foot alone is used as in propelling the French vehicle. The connecting apparatus differs from that of the French bycycle in that the saddle bar serves only as a seat and a brake, and is not attached to the rear wheel. By a simple pressure forward against the tiller, and a backward pressure against the tail of the saddle, the saddle-spring is compressed, and the brake attached to it brought firmly down upon the wheel."

FATTENING ANIMALS.—A heifer or cow will make beef earlier than a steer. An old cow, or an old sheep, will not fatten nearly so well with hay as with grass.

Horticultural.

To Protect Trees from Rabbits.

JACOB'S FORK, N. C., Nov. 24, 1868.

To the Editors of the Maryland Farmer:

Permit me to communicate through your valuable paper, for the benefit of those who may be troubled with depredations by rabbits on their trees, to the following remedy which has proven uniformly successful.

I have a young orchard of apple trees which early in the fall of last year were attacked by rabbits, and were seriously injured by them. To prevent these attacks for the future, I took a piece of old bacon and greased them about two feet from the roots upwards, since which time the trees have been unmolested, the little fellows not seeming to relish *fat bacon*, it not suiting their dainty appetites. One coat of old bacon in the fall will do until spring.—This remedy has proved so entirely successful with me that I can recommend it to all tree growers as cheap and easy of application.

Yours, &c., F. H. B.

The following is another remedy for protection against rabbits, which we copy from *Colman's Rural World:*

Thousands of trees are injured every fall and winter by rabbits. The loss to farmers and fruit growers, by their depredations, is immense. Many resolve when they see their losses, that they will guard against them in the future; but when the autumn returns, other cares press upon them, and the rabbits are forgotten till other trees are ruined. It is painful to us to see a fine, young tree, well established in the orchard, destroyed by these pests. It is an easy matter to guard against them. They don't like flesh or blood. They have an aversion to animal matter. If the bark of the tree is smeared with it, they will not molest it. Consequently, about the middle of November, if farmers will take a piece of liver, or flesh of any kind, or blood, and rub the bodies of the trees for a foot and a half high, and then repeat the operation about the middle of January, not a tree will be touched. This the best and cheapest preventive. It does not injure the tree.

It is said that among the two millions of people by whom Jeddo is inhabited, there is not a beggar in the streets, not a drunkard, not a ruffian. The women are beautiful, the men are robust and energetic; there are no trouble about the fashions, education is universal, books are plentiful, though there are no newspapers; life is simple and easy, marriage is universal, and children go naked! A paradisefor a poor man.

BENEFITS OF MULCHING FRUITS.

BY HENRY T. WILLIAMS.

Read before the N. Y. Fruit Growers' Club.

There are so many instances of beneficial results from mulching applied to all kinds of fruit, that I would like fruit growers to pay more attention and practice to the subject.

It is so simple, so practical, so easy, and so excellent in increasing the health and productiveness of fruits, that, notwithstanding its moderate expense, fruit-growers will find it one of their most efficient aids.

No man should spare time or trouble in horticulture, if he wishes to save his fruits and increase their crops.

That good man Downing said, "If we were asked what practice founded on *principle* had been most beneficially introduced into our horticulture, we should answer *mulching*—suggested by the need of moisture in our dry climate, and the difficulty of preserving it around the roots of fruit trees."

In this peculiar climate of ours, furnishing at one period of the year the scorching rays of the sun to wither and exhaust the vitality of many of our best plants, and then succeeded by the frosts of a stormy and severely cold winter, trying all varieties and putting them to the severest of tests, with, alas! too little comfort and success. I see one way by which we can maintain the life of a majority of our plants, and increase their health, vigor and productiveness —very *careful mulching*.

Mulching means any sufficient covering of the surface of the earth, and its object is threefold:

1st. To protect and preserve the plant from the excessive heat of the sun.

2nd. To equalize the temperature and preserve the soil aud atmosphere uniformly moist around the roots.

3d. To keep the plant secure from the repeated frosts of the winter.

With all newly planted trees or vines, a uniform degree of moisture is necessary; and the more perfectly this is furnished, the better will they flourish. If absent, however, they will languish for the need of it.

It makes but little difference as to the kind of fruit to apply it to. Strawberries love it perhaps better than any other, and give generous returns for the care bestowed. Raspberries are highly benefitted, and many varieties are successfully grown this way that could be grown in no other. All kinds of standard and dwarf fruit trees are greatly benefitted, and large orchards are frequently saved by its use. Currants and gooseberries have yielded better crops, and been more healthy and vigorous; while to vegetables and evergreens the effects are no less marked and advantageous.

The materials to be used are very various, but the following are cheapest and most efficacious.

Decaying leaves. Almost every farmer or fruit grower can obtain abundance of this from the woods usually so near at hand. It is quite an easy matter to harness up the team and cart, and drive into the woods, and with hoe, rake and shovel, scrape up hundreds of loads of forest refuse. It is the very best of all mulches, as it is not only a protection, but contains the highest kind of fertilizing material, to be absorbed quickly by the plant.

Sawdust. Very many live where they can obtain

an abundance of this. It may splash some on the plants during the heavy rains, but it is better to apply it than nothing at all. It has the merit of cleanliness, and may be incorporated in the soil as a fertilizer or ameliorator.

Tan bark is also excellent. I have used it with excellent success. Applying it one inch deep to strawberries, it formed a handsome path up and down between the rows, perfectly clean and free from weeds—forming a nice bed for the fruit to rest upon when ripe, and easily heaped over the hill at commencement of winter. The tannic acid it is said to contain, be it little or much, is assuredly quite a benefit. If used around evergreens it should be applied two inches deep.

Even *stones* and *boards* have their uses. I have seen trees growing up from stone-heaps, and I could not help but notice and admire the size, vigor and luxuriance of their stalks, and yet I was too young to understand the cause. Also, I have observed other trees growing by the side of a heap of boards loosely thrown about, or out of a lot of rubbish, or heaps of brushwood, that were far more thrifty than those in richer ground but more exposed.

Salt hay is probably the best and cheapest where it can be obtained. It is usually sold at a price of $5 to $10 per ton, according to distance from seaboard for delivery, and four tons per acre are needed for a good dressing. Those who are fortunate to live near at hand can get it by simply cutting and hauling with their own teams.

Straw, which some farmers waste far too freely, is also one of the cleanest and best; but like old hay it is liable to the objection of concealing the seeds of weeds, which, in course of time, will grow and take possession of the soil.

When mulch has been used more than one season and gets old, after the plant has done fruiting either remove it, or apply manure upon it and fork it into the soil.

The use of mulch is a *great saving in labor*. If the ground is well mulched, no labor is necessary to till it. If strawberries are cultivated, the fruit will be more abundant, will be cleaner, easier and faster picked, and of a more uniform size and agreeable flavor. These considerations alone determine the value of its use by all those who grow for market.

On the score of economy, it costs no more to mulch an acre than to pay for the labor of cultivating a single season. * * * * *

The Best Time for Application, in my judgment, is just at the beginning of summer, but it often happens that the material for mulch is scarce at that time, and there is no resource but to wait till a later date, September usually finds an abundance in every direction, and a very convenient time.

Method of Application.—For strawberries apply between the rows, covering the ground completely; on the approach of frost, take a fork and cover the plants well. In the Spring uncover, and allow the mulch to cover the ground again. It is well, once in May and once in September, to push the mulch aside and pass up and down with the cultivator.—It has the effect of stirring the soil and increasing its power of absorption; and also prevents it from becoming hard and stagnant.

For raspberries, spread evenly over the ground, and allow it to remain undisturbed.

For trees. If the entire ground can not be covered, then apply all around under the branches of the tree, and a little out beyond the extreme edge of the branches. Let the earth slope like a little mound, or rise of an inch or two toward the trunk. Do not let the mulch come within six inches of the trunk. It is well to stir this mulch and the soil beneath at least twice during the season.

Although mulching is a very simple operation, yet beginners may err in applying too much to trees, and thus promote the growth of fungi or other diseases. Two inches are usually sufficient if the mulch is of a compact nature. But three inches at all events are an abundance. More than this can not be recommended.

Many of our best fruit growers who have used mulching for trees, consider it so important that they would omit any other point of cultivation than this.

Mulching in nearly all cases answers the purpose of watering. It is an excellent preventive against drouths, which so often injure newly planted trees, and it is a good substitute for mellow culture.

For cherry trees it should never be omitted. One fruit grower who had planted 150 trees, mulched 50 of them. Those that were mulched all lived.—Of the hundred not mulched fifteen died. In other cases the losses have proved frequently more serious.

If trees are transplanted late in the spring, they will either start late, or even if a good start is made, will often fail at mid-summer, from the parched condition of the earth around the roots. Watering even will often fail to save them. Indeed watering is usually an injurious practice, for the roots are stimulated at one time of the day by the moisture and consequent coolness, and are only rendered more liable to the action of the hot sun at another; the surface of the ground is rendered more hard and less porous, and the free access of the air is cut off.

But if mulching is used at the time of planting, they will never need the necessity of watering.

Uniform *temperature* and a constant supply of moisture, are the prime elements of success in fruit culture. Mulching enables us to accomplish this.

Mulching acts beneficially in other ways. It prevents, to a great degree, the *cracking* of *fruit*, and causes those varieties which are generally spotted and defaced to become clean and covered with a rich bloom.

I remember an instance which appeared several years ago, where a large pear grower in New Jersey used a thick mulch of old chips and iron waste, it acted as a preventive against cracks in fruit, also imparted a superior flavor, and increased the smoothness of the bark.

Native grapes too, were tried in the same manner, which had previously been much injured by rot and mildew, and were saved from such diseases by using mulch alone.

It was applied very thick, five to six inches, a thickness which I think too heavy for health to be used constantly.

It may be safely said that a tree with only one-half or one-third its original roots, (if the top is shortened in proportion,) such a tree as would, nine times in ten die with the usual treatment of planting and watering, may be invariably saved by mulching.

But after all remember one thing, that if once commenced it must be continued.

If omitted for a season the innumerable tender fibres which have been encouraged to come to the surface, will be exposed to the disastrous effects of parching sun and severe cold of the frosty fall and

winter. Your tree will no longer live or bear fruit. Mulching should be either constant or neglected altogether.

Of all our fruit trees, none require mulching so positively as the dwarf pear. The quince roots are fibrous and lie near the surface; if we wish for a handsome and vigorous top we must have abundance of sap and moisture.

Tolerable care in planting, with suitable mulch, will insure the safety of at least eight out of ten, while ten to fifteen per cent. will die every year or fail to do well without it.

If those persons who have experienced so much dissatisfaction in the cultivation of dwarf pears, will stir up their ground well, and apply a good mulch—they will find after one season's trial, they have hit upon the *golden rule*.

We all love fruit.

"They minister delight to man
And beautify the earth,"

but to have it in constant, steady abundance, you must care for the trees as you would for the health and life of your own children. Mulch your *young* trees if you want them thrifty and luxuriant.—Mulch your *old* trees if you desire fine foliage and fair large fruit. Imitate nature in the woods and fields as she gathers the beds of leaves and moss around her trees.

Winter Pruning---Is it Injurious.?

E. A. Riehl, writes to the *Rural World* the following as his experience in winter pruning: I believe it is almost universally stated as a fact, by horticultural books and papers, that it is injurious to prune in severe cold weather, and is believed by most, if not all orchardists, to be true: my experience, however, proves the contrary. Last winter I pruned some young trees in my orchard *when they were frozen;* and, as I wanted all the wood I could get for grafting, I cut everything that could be spared, and also cut away some pretty large limbs, so that for the size of the trees, it was a very severe pruning indeed—and it did not hurt them in the least, and they are just as thrifty and healthy as other trees pruned in warmer weather; so that in the future I shall take but little heed of the weather, and prune when most convenient.

Apples for Maryland.

Wm. Corse & Son, comunicates the following to the *American Farmer:* Subjoined is a list of varieties of apples best adapted for this latitude for general cultivation and productiveness.

Summer Varieties.—American Summer Pearmain, Early Harvest, Early Strawberry, Large Early Bough, Red Astracan, Carolina Red June.

Fall Varieties.—Holland Pippin, Maiden's Blush, Bell Flower, English Redstreak, Dominie.

Winter Varieties.—Baldwin, Hubbardston's Nonesuch, Sek-no-further, Smith's Cider, Tulpehocken, Large Paradise, Long Island Russet, Michael Henry Pippin, Pomme d'Api, or Lady Apple, Esopus Spitzenberg.

Grape Culture.

CULTURE AND PRUNING OF THE GRAPE VINE.

POTOMAC (VA.) FRUIT GROWERS' ASSOCIATION.

An unusually attractive meeting of the Potomac Fruit Growers' Association of the State of Virginia was held on Wedensday, November 18th last, at the residence of Col. JAMES T. CLOSE, Closeville, Alexandria county; and was called to order by the president, Hon. C. H. BRAMHALL.

The special topic of discussion at this meeting was the culture and pruning of the grape vine, from which we glean the following as reported by the *Winchester Journal.*

Mr. MYERS, at the request of the Association, explained his system of pruning the vine, illustrating his remarks by drawings. The vine is tied to a stake, and all laterals pinched off, to concentrate the strength in one cane, which at the end of the season, is cut down to about fifteen inches from the ground, and all buds rubbed off but the two upper ones, from which two canes start the next spring. At the close of the second year, cut back one cane to two buds, leaving the other to mature and fruit the next year. All superfluous off-shoots must be pinched off, and the shoots should not be allowed to grow more than six or eight feet high. The third year, one cane will fruit, while the other is maturing; and, at the close of the season, the fruiting cane is cut back again for a new shoot, while the other is kept to fruit the next year. By this renewal system, one vine is kept in fruit while the other matures, cutting back to two buds alternately each year the one which has fruited; and a large quantity and finer quality of grapes will be secured.

Mr. PHILLIPS was then called upon to explain his system of training, which differed somewhat from that of Mr. Myers, and which was identical with that recommended by A. S. Fuller: ("The Grape Culturist," pp. 129—145.)

"Plant the vines in rows six feet apart, and eight feet apart in the row, and let but one cane grow the first season; keep it tied to the stake, and pinch off the laterals, to concentrate the growth into the one cane. This cane is to be cut back the next season to within twelve or fifteen inches of the ground, and only the upper two buds are allowed to grow, all the others being rubbed off. From these upper two buds two canes are produced, each one of which should have the same treatment as did the single one of the previous season. The second season, the vine will usually produce three bunches of fruit on each cane; and, if it is strong and vigorous, these may be allowed to mature; but, if the vine is not strong, they should be removed on their first appearance.—The canes at this time should be from eight to twelve feet long, and at least half an inch in diameter. If much smaller than this, one of them should

be cut away, and the other cut back to two buds, and two canes should be grown as in the previous season.

"The trellis should now be built, if it has not been made before. The two canes of the vine are now shortened to four feet, bent down in opposite directions, and laid against the lower bar of the trellis, to form arms. Select five or six of the buds on the upper side of the arms thus laid down, to be grown into upright canes, making a mark on the trellis bar opposite to each. From the mark opposite the buds stretch No. 16 galvanized wire to the bar above. All buds and shoots not wanted for upright canes should be broken off; and, so soon as those remaining are long enough to tie to the upright wires, it should be done. When the upright canes have grown to about two feet, they should be stopped by pinching off their ends. Pinching will cause the remaining leaves to expand, and become large, thick, and firm, and much better fitted to withstand the atmospheric changes than they would otherwise be. The shoots, after being stopped, will soon start; and, after growing a few inches, they should be checked again, as we wish to *keep* them within the limits of the trellis, and not allow them to grow much, if any, above it. All the laterals on the canes should be stopped, as though they were on young vines.

"The upright canes are pruned back the first year to five buds. The next year, a cane will proceed from each of these buds; and all other shoots which may start from the small buds near the arm should be rubbed off. The second year, they will produce three or four bunches of fruit; and, instead of twelve upright canes, we now have twenty-four; and, allowing three bunches of fruit to each, it gives seventy-two bunches to each vine, and this is not an overestimate for the product of a vine the fourth year after planting. The canes are to be treated the same as regards stopping, pinching, laterals, etc., during each year of their growth."

From this point Mr. PHILLIPS pursues with the upright canes the renewal system recommended by Mr. Fuller, and practiced by Mr. Myers. With care, liberal manuring, and cultivation of the soil, he thought that at least a thousand dollars per acre could be cleared annually, after the vines came into bearing. The expense is nearly all at the commencement, and the vines, of course, never have to be replaced by new ones.

President BRAMHALL thought that not sufficient attention was paid in this country to the preparation of the soil before planting. In France and Germany the ground is cultivated to a great depth, not only by subsoiling, but frequently by trenching as deep as five feet. A liberal quantity of manure is then used and continued annually. There the land is high, and the vines are closely planted.—Here, where land is cheap, it is preferable to plant wide enough apart to cultivate both ways, for the two first years; and, if well subsoiled, trenching is not necessary, nor will it pay. But the soil must be made and kept rich, if you want to secure good crops. If you dig pits or trenches between the rows, and fill them with ashes, bones, old leather, offal, etc., in a very short time the little rootlets of the grape will scent the food, and penetrate it in every direction.

Mr. MASON thought broken bones an excellent fertilizer for the vine.

Col. CLOSE had used the broken bone with very gratifying results, and preferred it to the ground bone, which was often adulterated to a considerable degree.

Mr. MYERS, did not believe in trenching nor in heavy manuring. Some of his neighbors used considerable manure while he used none, yet his grapes always excelled theirs. He always buried his cuttings and trimmings between the rows, and thought that was sufficient.

President BRAMHALL thought it a great mistake to suppose that no nutriment was contained in the subsoil, or that crops could be continually taken from the soil without providing adequate plant food. The land here has been merely scratched over three or four inches deep, and it is upon the subsoil and fertilizers that we must rely.

Mr. PHILLIPS has just returned from a visit to the fruit farm of Mr. Knox, at Pittsburgh, Pa., of which he gave an interesting account. Mr. Knox uses the horizontal arm and spur system of pruning, as before described, and recommends the Ives Seedling for Virginia, which he thought was admirably adapted to the cultivation of the grape.

The above Association was organized on the 14th of September last, and is now large, prosperous and growing. The following are its officers:

President,	Hon. Charles H. Bramhall.
1st Vice President,	R. A. Phillips.
2nd Vice President,	J. L. Koon.
Treasurer,	Dr. Lester Lloyd.
Recording Secretary,	Dr. P. Hogan.
Financial Secretary,	P. Myers.
Cor. Secretary,	Col. F. J. Bramhall.
Curator,	John L. McCormick.

THE WINE CROP.—It is stated in the Wine and Fruit Reporter, that the wine crop of the past year is extraordinary, both in quantity and quality: From France, Germany, Portugal and California the reports are all to this effect, and it is only in some parts of Spain that there is any deficiency.—In all these countries, the grapes have not only been free from disease, but they have attained their full ripeness, and were not gathered until they were perfectly matured. The wine will accordingly be unusually fine and delicate, not so alcoholic as that of 1865, but superior to that of any year in this century. The best crops of all are those of Germany and California. In the former country there are not casks enough to contain the unexpected yield. In France, whose wines are consumed in all parts of the world more than those of any other country, the production is not so large, though its quality have never been exceeded.

TO DESTROY INSECTS IN GRAPE-VINES.—Make a mixture of soft soap, prepared from potash and common grease, two pounds; common Scotch yellow snuff, or ground tobacco leaves in a dry state, two pounds; powdered roll brimstone, two pounds; boil for half an hour or more, in five gallons of water, and apply to the stems of the vines while at the temperature of not less than 110°, nor more than 150°, keeping the mixture thoroughly incorporated by shaking or stirring during the whole time. The above application has been the means of saving many a valuable grapery and extensive vineyard in Europe and California from the ravages of the most destructive insects which ever infest the vine.

The Norfolk Chronicle condemns the use of check reins on horses. They spoil their mouths, impair their tempers, and render them generally uneasy.

The Florist.

FOR THE MARYLAND FARMER.

FLORICULTURE---January, 1869.

The amount of pleasure afforded in the nursing of only a few window plants is often great, and when success crowns the effort the gratification is heightened; that there is a science in such matters no one who has tried their hand at it can doubt, therefore, to simplify all our acts, in order to obtain good results, is a thing desirable to be aimed at. As a general rule there are four elements essential to the well being of a plant, viz: *Earth, air, heat* and *water*, to which might be added *light*—each of which, when supplied in proper quantity to suit the constitution of the individual, will just so far add to its physical condition, in proportion as they are supplied or withheld.

There are two errors which the majority of people who cultivate plants in their dwellings and greenhouses, commit—first, that of keeping the temperature too high—50° to 60° as a general rule is high enough for such as are denominated parlor and greenhouse plants, but which at a lowe temperature, will not flower so freely; and in the second place, no more water should be given at the root than what is taken up readily, but how much that will be we cannot measure out in words, and it will depend entirely on the size, kind, condition and situation of the individual supplied.

In clear, mild weather, the admission of a little fresh air, in the early part of the day, and the syringing of the plants overhead, with soft water, is very conducive to their health, as well as helping to keep insects under subjection, and the foliage clean.

During the present month preparations in material, for spring work, ought to be attended to, such as laying up in store, sand, soil of various kinds, collecting and making of stakes, labels, &c., &c; these etceteras the intelligent amateur and gardener will easily guess at, but a volume would have to be written to make the sloven in his profession comprehend what will be wanted, until the fact stares him in the face, that when the article is required it is not there.—Such young plants from seeds and cuttings put in early last fall and made good roots should now be potted, or put into pans or boxes, placing them afterwards in a temperature of about 60°, watering sparingly until new roots begin to form. And we advise to sow now, seeds of *Phlox Drummondii, Lobelia gracelis, Mignonette, Kenilworth Ivy, Hearts Ease, Salvia splendens, Sweet Alyssum*, and so soon as they make their appearance above ground, move them near to the glass. We would also place in a warm situation a few plants of *Chinese Azaleas, Roses, Spiraes, Deutzias* and *Wigelias*, with such *Nosegay* and *Zonale Geraniums* as you want to bloom early in Spring, or about the time *Egyptian Lilies, Hyacinths, Tenweek Stocks* and *Cinerarias* come into bloom, these with a few choice *Camellias, Acacias Chorozemias*, will make the house have a gay appearance in March and April.

Wardian cases and hanging baskets filled with plants, are now much in vogue to decorate the Piazza, conservatory and cabinet; plants of a graceful growth are best adapted for such receptacles, and the tribe of ferns may be deemed the most eligible for such a purpose, therefore, we name a few that can be easily procured, viz: *Adiantum concinnum, A. cuneatum, A. tenerum, Pteris geraniifolia, P. hastata, P. serrulata, Platyloma rotundifolia, Hemionites palmata, Selaginella* (formerly *Lycopodium*) *Stolonifera, S. Mertensii, S. Densa, S. Wildenovii;* these and such vines as *Maurandia, Mexican* and *Kenilworth Ivy*, mixed with *Money-wort, Saxifraga, Verbenas*, trailing *Lobelias*, &c., &c., form an elegant group or cluster. Baskets of this kind when exposed to the action of hot winds, become soon dry; therefore they should be watched, otherwise the plants will suffer from drought, when such happens, it is a good plan to immerse the whole in a bucket of water for a few minutes, and then remove it to a warm shady situation for an hour or two.

In regard to out-door operations, we would say, that in mild weather, such work as pruning shrubs and deciduous trees, can be performed; by pruning we do not mean the cropping off bushes and limbs of trees with a pair of Hedge-shears, leaving them like a mop or broom, but we mean the shortening in of exuberant growths, and cleaning out dead and cross wood, so that a light and graceful form may be produced; a sharp chisel, mallet, saw and strong pruning knife—are the instruments to be used. Walks, roads, underground and surface drains can be both made and repaired at this season. Various kind of soils can be carted together, thrown into heaps, afterwards to be turned over to make the mass mellow for top dressing the lawn—or planting of trees.

W. D. BRACKENRIDGE,
Florist, Govanstown, Md.

INAUGURAL ADDRESS OF HON. E. J. HENKLE.—We call attention to the very able address of this gentleman, delivered before the recently organized Anne Arundel County Agricultural Society, upon the occasion of his election as the first President. We cannot resist the temptation to publish it entire, as it sets forth so clearly the great advantages to be derived by the farmers of the State in well organized and conducted Agricultural Societies in every county. We bespeak for it a careful perusal. We are indebted to the *Maryland Examiner* of Annapolis, for a copy of the address.

"HEARTH AND HOME"—*For the Farm, Garden and Fireside.* We have received the first number of this elegant weekly containing 16 handsome folio pages printed from new type, on clean white paper, and numerously illustrated with attractive engravings by the best artists. It is adapted to the farm and household, and cannot but be acceptable to the public. It is under the editorial management of Donald G. Mitchell, Esq, assisted by Harriet Beecher Stowe, Joseph B. Lyman and Mary E. Dodge, who are well known in the literary world. It is published by Pettengill, Bates & Co., 37 Park Row, New York, at $4 per annum We refer to their advertisement on another page.

TO KEEP SEED PEAS FROM BUGS.—The most successful way to avoid the bug is to grow a second crop of peas in a season from the seed obtained from the first crop, and there will be no buggy peas, no matter where or how kept—for, as the weevil in question is single-brooded, a second crop of peas will be entirely exempt from its attacks.

Ladies Department.

THE OLD HOUSE FAR AWAY.

The wild birds warble, the silvery rills
Sing cheerily round the spot,
And the peaceful shade of the purple hills
Falls dim on my mother's cot;
Its windows are low, and its thatch is low,
And its ancient walls are gray;
O, I see it! I love it! where'er I go!
The old house far away!

The little clock ticks on the parlor wall,
Recording the passing hours;
And the pet geranium grows rank and tall,
With its brilliant scarlet flowers;
And the old straw chairs, so cozy and low,
Where mother sat knitting all day;
O, I see it! I love it! where'er I go!
That old house far away!

Dear mother! how plainly I see her now,
Reclining in that arm chair,
With the sunset resting upon her brow,
That was once so smooth and fair;
With her crimpled border white as snow,
And her once dark hair now gray;
O, I see it! I love it! where'er I go!
In that old house far away!

Not all the treasures the world affords,
The riches of land and sea,
Nor all the wealth of earth's proud lords,
Can blot from my memory
The roof that sheltered each dear, dear head,
And the humble floor of clay,
Where the feet I loved were wont to tread
In the old house far away!

Dublin Journal.

HISTORY OF A TOWEL.

Having told little Georgie one day that the sponge with hich his face was washed was part of an animal, he naturally asked:

"Is the towel an animal, too?"

"No, Georgie; the towel is a plant, so is a rose-bush, and corn, and grass. There is not much resemblance between them, you see; still less does the towel resemble either; and I will tell you all the changes the plant passes through before it becomes a towel."

The towel is made from a plant called *flax*.

Far way—in Asia, on the plains of Persia—this plant grows wild. In most countries of Europe, especially France, England and Belgium, and in many parts of America, large fields of it are cultivated. It bears a pretty, delicate blue flower, shaped like a little the bell; its leaves are small, narrow and pointed; it belongs in the study of Botany (for flowers in Botany are all divided in classes and orders) it belongs to the fifth class and fifth order. That is, in the center of the flower are five little knobs called stamens, and five other litte things called pistils.

This pretty plant, which gives a blue hue to the appearance of the field when it is in blossom, grows to the hight of two or three feet.

But it is of neither the leaves nor flowers that our towels and linen clothes are made; it is the slender, delicate stem, so frail that it bends before every wind that sweeps over it, like a field of grass.

To understand the structure of this stem, you may take a skein of fine cotton, and extend it on the table, then lay upon it lengthwise, a small stick, like a very small pipe-stem, or a very large knitting-needle, and press the threads so close to it on all sides as to hide it; wash the whole over with gum or glue to keep them all together, and you have a good representation of a stalk of flax.

We will suppose now that flax-seed was planted in the spring.

When it was about two inches high, women and children were employed to creep all over the fields, barefooted, and pull up the weeds from it. Children are preferred, as they trample it down less; however, the little plants soon revive again, and grow up and bear leaves and flowers.

When the leaves turn yellow, and the last blossoms disappear, is the time for harvest. It is then pulled up by the roots. Women and children are employed for this in France; and, after spreading it thinly on the ground from which it was taken, they again go over the field and tie it up in small bunches, which are placed on ends, leaning one against the other, to dry. In one week it is dry, and then it is taken to the barn to be stripped of its seed. To do this, several ways are used. Sometime they only beat it with a flat-headed mallet—that is, a huge wooden hammer—then shake the seeds out, for planting next year, and the stalks they lay by themselves.

These stalks are now tied in large bundles; and what next is to be done to make out of them all these covenient clothes which we have, these soft linen-cambric handkerchiefs, these linen collars, and these very necessary towels? for now they only look like dried sticks.

I will tell you. These stalks—like your imitations of them with a pipe-stem, a skein of cotton and some gum—consist of precisely three such parts.

And of these three, one part only is valuable—the threads, or fiber, as it is called; and that which is to be done now is to soak these threads loose from the gum, and separate them from the wood center, which is called the bole. This is called resting, or retting it.

Now, if these bundlss of stalk are spread out in a meadow, exposed to the sun and rain and dew, or if it were laid in water, either in a creek or pond, or, better still, in warm water, this will be accomplished. The center-wood, or bole, will decay, the glue will dissolve, and the fiber, or threads, can easily be separated from them, and tied in bundles by themselves. To do this requires a few weeks time; or, if warm water is used, it takes less time.

Soon now this flax will take the shape of a towel.

These bundles of fiber, after being nicely cleaned, are made straight and smooth with great iron combs, in the same way as you would smooth your hair, or untangle a bunch of yarn. Then they are taken to some great factory, where there are hundreds of wheels, moved by steam and machinery, and where all these little fibers, which are as fine as the finest hairs, will be spun into thread.

A part of it, also, will be spun by the tidy wives and daughters of the flax-farmers. When all the summer work is finished and cold winter comes, they will sit through the long evenings round the great bright wood fire, with their little spinning-wheels twirling and humming away, making spool after spool of pretty, smooth thread.

One thing only is yet to be done—this thread is to be carried to the weavers, who with their great looms will soon weave it into a variety of useful fabrics; some they will weave in a particular way, with little figures in it, expressly for towels; and behold!—Georgie will be provided with a beautiful and necessary towel, which is, as you see, Georgie, part of a plant—the Flax.

HARVEST HYMN.

Written for the East Alabama Agricultural Society, Second Annual Fair, Opelika, October 28, 29, 30, 1868.

By Dr. C. T. Cushman.

I.

To Thee, our Father! God of Peace!
Our first-fruits here we bring:
The golden sheaf, the snowy fleece,
That feed and clothe the king.
Here at Thy feet, now harvest-crowned,
This smiling land adores
The Providence, the Love profound
That gave the sun and showers.

II.

Though War and Faction laid their blight
Upon her lovely breast,
Yet, glim'ring in the dawning light
We see her rising crest!
Her stalwarts sons, her daughters mild,
By sturdy, patient blows,
Erelong shall make her sedgy wild
To blossom as the rose.

III.

Fair Science comes, the way to show—
What Labor failed of yore—
Th make two ears of corn to grow
Where but one grew before;
To quicken Art, and break the seal
On Truth's pure temple set;
Then let the fire of new-born zeal
Make each his woes forget!

IV.

Bright land! where Liberty abides
There let us have our State;
Where Virtue, Truth, where Mind presides,
To make the nation great!
To her we'll cling, with love of home,
And give our latest breath
Defending, till we find a tomb
Beneath her sod in death.

MARRIED LIFE.

The following beautiful and true sentiments are from the pen of that charming writer, Frederika Bremer, whose observation might well become rules of life, so appropriate are they to many of its phases:—"Deceive not one another in small things nor in great. One little single lie has, before now, disturbed a whole married life, a small cause has often great consequences. Fold not the arms together and sit idle. Do not run much from home. One's own hearth is of more worth than gold. Many a marriage, my friends, begins like the rosy morning, and then falls away like a snow wreath. And why, my friends! Because the married pair neglect to be as well pleasing to each other after marriage as before.—Endeavor always, my children, to please one another; but at the same time keep God in your thoughts. Lavish not all your love on to-day, for remember that marriage has its to-morrow likewise, and its day after to-morrow too. Spare, as one may say, fuel for the winter. Consider, my daughters, what the word wife expresses. The married woman is the husband's domestic faith; in her hand he must be able to confide house and family; be able to entrust to her the key of his heart, as well as the key of his eating room. His honor and his home are under her keeping—his well-being in her hand. Think of this! And you, sons, be faithful husbands, and good fathers of families. Act so that your wives shall esteem and love you."

A New "Washer"—A Novel Idea.—A down-east inventor has originated a new idea in washing clothes. A false bottom of tin, perforated, is placed in a common boiler. Beneath it are placed soap and water; above it the clothes to be cleansed. From either end of this bottom rises a curved tin tube so shaped that the streams of water coming up through them pour into the middle of the boiler. This being placed upon a stove, the heat produces expansion of the water at the bottom, which pours up through the tubes and falls on the clothes. The suction from below draws the water downward through the goods, making a constant circuit of boiling suds drawn through the meshes of the fabric to be washed. All that is necessary to be done after this is to remove the goods, when they are clean. The machine runs itself.—*The Household.*

[The new "Washer" above described is the machine advertised by Collins & Heath, of Baltimore and which we have tested to our satisfaction.]

DOMESTIC RECIPES.

Lemon Fritters.—Mix with six ounces of very fine bread crumbs four of beef suet minced as small as possible, four ounces of sugar, tablespoonful of flour, four eggs lightly beaten, and the grated rind of one or two lemons with half or the whole of the juice; before this is stirred in add two spoonfuls of milk or cream and fry the mixture in small fritters five or six minutes.

Everton Taffy.—Put into a preserving pan or kettle three ounces of very fresh butter; as soon as it is just melted add a pound of brown sugar. When half done add the grated rind of a lemon; keep it stirred gently on a very clear fire for fifteen minutes, or until if you drop it on a plate it will break quickly.

Apple Heringue.—Pare, core and stew 10 tart apples in a very little water; season as for a pie, and put it in a fruit-pie dish into a cool oven. Beat up meanwhile the whites of four eggs, as you would for icing, piling it on the apple like rocks, or irregularly, avoiding the edge of the dish. Return it to a warm oven, and brown maccaroni color; slip all out carefully, by aid of knife or spoon into a China dish, and serve with cream. If you have not cream, make a custard of the yolks, flavored with essence of vanilla.—*Above from Germantown Telegraph.*

Waffles.—One-half pound of butter, one quart of milk, four eggs, three teaspoonsful of cream of tartar; mix in the milk one-half a teaspoonful of soda, which you soak in a little water; put in when you put in the whites of eggs; flour to make a batter—not too thick.

Fremont Cake.—Three cups of sugar, two cups of butter, one cup of sweet milk, six cups of flour, the whites of ten eggs, one teaspoonful of soda, two of cream of tartar; put the flour and eggs in by degrees; soda in the milk; cream of tartar in the flour.

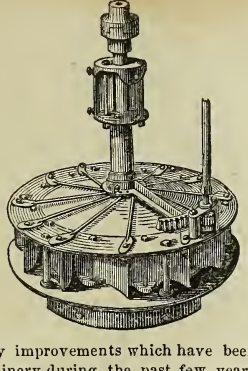
Cheese Cake.—Two cakes of cottage cheese, four eggs, a piece of butter about the size of a large egg, the rind and juice of one lemon, one nutmeg; sugar to your taste; add cream enough to make it like pumpkin pies.

Corn Starch Cake.—One cup of butter, two cups of sugar, one cup of sweet milk, one teaspoonful of soda, two teaspoonsful of cream of tartar, the whites of seven eggs, one cup of corn starch, and two cups of flour.

Cropper Cake.—Four eggs, one cup of butter, one cup of molasses, one cup of sugar, one cup of milk, and four cups of flour. Cinnamon to taste, or a little lemon.

Why is bread one of the necessaries of life? Because it is always kneaded.

LEFFEL'S PATENT AMERICAN DOUBLE TURBINE WATER WHEEL.



Of the many improvements which have been made in all kinds of machinery during the past few years, we suppose there have been as many made in Water Wheels as in most any other class of machinery. Especially has the Turbine Wheel received the attention of inventors and scientific men, and now they are made to produce a most marvellous percentage of the useful effect of the water. Our attention has lately been called to the Leffel's Patent American Double Turbine Water Wheel, manufactured by Messrs. Poole & Hunt, of this city, who claim for them many advantages over the old overshot wheel, and are in many respects far superior to the general class of Turbines. They are made of best material and workmanship, are not liable to get out of order, and where economy of water is an object, they claim that they are the best wheel known for that purpose. These wheels are rapidly superseding the overshot, from the simple reason that they present so many advantages over all others. Among some of them are the following:

Backwater does not stop these wheels.

Every inch of the head and fall is made available.

It can never be frozen up in winter or become clogged with ice.

All the water passes through the wheel, consequently loses none. The overshot wheel spills a great deal of water from the buckets before they reach the lowest point; they are compact in form; occupy a small space; are complete in every respect, and adjusted for running before leaving the place of manufacture.

NEW BOOKS.

GARDENING FOR THE SOUTH; OR HOW TO GROW VEGETABLES.—By the late Wm. N. White, Athens, Georgia. Illustrated. Orange Judd & Co., New York. Price $2.00.

We have received from the publishers, O. Judd & Co., New York, a copy of this very valuable Southern work on Gardening. It contains about 450 pages, with numerous engravings, and embraces everything needed by the Southern Gardener. The sudden death of Mr. White, before he had fully worked up the manuscript for the publishers, made it necessary that other parties should complete it—accordingly Mr. J. Van Buren of Clarksburg, Georgia, an eminent pomologist and friend of the author, mainly wrote out that portion relating to fruit culture. The other portion was revised by Dr. James Camak. To the Southern people we recommend this work with confidence, feeling assured that it meets the wants of those engaged in the cultivation of fruits and vegetables in that latitude. The book is embellished with a very life-like portrait of the lamented author.

THE NEW ECLECTIC MAGAZINE FOR 1869.

The fourth volume and second year of *The New Eclectic Magazine* commences with the number for January, 1869.—Encouraged by the great favor which it has thus far enjoyed, its publishers have largely increased their facilities for rendering it attractive and useful. The general plan of conducting it will remain unchanged, the desire being to present a family magazine that will furnish something to the taste of various classes of readers. Biography, Travels, Fiction, History, Popular Science, Education, Wit and Humor, will all be represented in its pages. As the selections are made from the whole field of contemporary periodical literature, French, German, English and American, the publishers feel confident that their Magazine cannot be inferior in general interest and excellence to any similar publication now before the public.

TERMS.—Single subscription, $4 per annum, in advance. Single copy 35 cents. Two copies to one address, $7. Five do. $16. Ten do. $30; and each additional copy, $3. Specimen number sent to any address on receipt of 35 cents.—Turnbull & Murdoch, publishers, 54 Lexington street, Baltimore.

THE GALAXY FOR 1869.

"The January number commences the seventh volume of *The Galaxy*. The general scope and character of the magazine are so well known to the public that the publishers do not need to more than announce some of the leading points of interest which will commend *The Galaxy* to the continued favor of cultivated American readers. They may say, however, that since its enlargement last spring, *The Galaxy* contains fifty per cent. more matter than heretofore, and is now (with a single exception) the largest monthly magazine published. It is the purpose of the publishers to make it also the best magazine published.—To this end they will secure for its pages, at whatever pecuniary cost, the best literary and artistic talent now engaged, or that may hereafter be engaged, in writing for periodical literature, at home or abroad.

The price of *The Galaxy* is 35 cents a number, or $4 a year. Each number contains an amount of reading matter equal to most 12mo. volumes which sell at $2, every line of which is paid for by the publishers. Sheldon & Co., Publishers, 498 and 500 Broadway, New York."

The publishers announce a list of contributors engaged for the year who are among the first writers of the times. We name Charles Reade, Mrs. Annie Edwards, Richard Grant White, John Esten Cooke, and a host of others.

NOTICE EXTRAORDINARY.

GRAND HORTICULTURAL CONSOLIDATION.

"The oldest and youngest horticultural magazines have been united, and will be published after this month as one, under the name of *Tilton's Journal of Horticulture and Floral Magazine*.

Just as we go to press, we are able to announce to our subscribers that we have purchased that well known and long established journal, *The Magazine of Horticulture*, edited and published for nearly forty years, with great ability and eminent success, by C. M. Hovey, Esq., the celebrated American Pomologist; and hereafter the two magazines will be published as one, with the title indicated above. The great ability and long experience of Mr. Hovey will be added to our editorial department." Subscription $3 per annum. Tilton & Co., Publishers, Boston.

Splendid Christmas Present, Free to All.—The enterprising Proprietors of the AMERICAN STOCK JOURNAL have put up 300,000 copies in packages of 3 each, with a finely Illustrated Show Bill, Premium List, &c., which they offer to send *free and post paid* to all who apply for them. Every Farmer and Stock Breeder should avail themselves of this generous offer (to give away over $30,000 worth of books,) as the three numbers contain near 100 pages of choice original articles, and a great number of valuable recipes for the cure of various diseases to which Horses, Cattle, Sheep, Swine, Poultry, &c., are liable. Farmers will find this monthly a very efficient aid in all the departments of Farming and Stock Breeding. It has a Veterinary Department under the charge of one of the ablest Professors in the United States, who answers through the JOURNAL, *free of charge*, all questions relating to Sick, Injured or Diseased Horses, Cattle, Sheep, Swine or Poultry. Thus every subscriber has a Horse and Cattle Doctor *free*. This JOURNAL is furnished at the low price of $1.00 a year, specimen copies *free*. Address N. P. BOYER & Co., Publishers, Parkesburg, Chester Co., Pa.

WE will furnish to all NEW subscribers to the *Maryland Farmer* for 1869, both the *American Stock Journal* and *Maryland Farmer* at $2 per annum, or clubs of 5 or upwards—ALL NEW subscribers—at the LOW PRICE of $1.50 for both. It is specially understood that the CLUBS must be ALL NEW names. The *Stock Journal* is really a valuable magazine, and both for the low amount named makes it the cheapest combination ever entered into. You who are after *cheap* as well as *good* things, send along your names and money.

FROM THE

Christian Index and Southwestern Baptist.

"How we would rejoice to know that a copy each of the *Southern Cultivator*, *The American Farmer*, *The Maryland Farmer*, *The Scientific American*, *Lippincott's New Monthly*, *The Galaxy* and the *Index and Baptist* were weekly visitors to the home of every Baptist in Georgia, Alabama and Florida. Would there not be strong grounds upon which to build the hope of our speedy progress and prosperity? What an encouragement for further efforts in the line of good works! We are prepared to supply either or all of the publications named, upon very reasonable terms, in connection with the *Index*. The money must come, however."—*Index*, *Dec.* 10.

THE AMERICAN ENTOMOLOGIST for December, among other good things and numerous answers to correspondents, contains an exhaustive article on that curious insect, the 17 year Cicada. It also treats of the Western Grasshopper which has so ravaged the Western country the past season; of the "Twig-girdler," "Hellgrammite Fly," etc., etc. It is fully and beautifully illustrated and printed on better paper than the previous numbers. St. Louis, Mo., $1 per annum.

THE LEONARD SCOTT PUBLISHING CO.'S REPRINTS OF BRITISH PERIODICALS.—We call attention to the advertisement of this Company in another column. These journals are world wide in their character, instead of being merely insular, local or British, in a contracted national sense.—They are standard works of the highest order, and should be in the library of every gentleman of refined taste in literature.

A GOOD PRACTICAL FARMER wants a situation as manager or superintendent in Maryland or South of it. Can give the best of reference by addressing Paschall Morris, Philadelphia, office of "Practical Farmer."

New Advertisements.

Pettengill, Bates & Co..	Hearth and Home.
Edward J. Evans & Co.	Napoleon III Strawberry.
Edward J. Evans & Co.	Gardening for the South.
Leonard Scott Pub. Co.	British Periodicals.
"Costar," New York...	Standard Preparations.
W. F. Dailey.....	Patent Craig Microscope.
Charles Collins.....	Strawberries, Raspberries, &c.
A. E. Groff.....	White Chester Boar, for sale.
R. J. Ruth & Co.....	Superphosphate of Lime.
"	All kinds of Seeds.
"Practical Farmer,"...	Situation Wanted.
James Vick.....	Floral Guide for 1869.
Purdy & Johnson.....	Small Fruit Instructor.
J. M. Thorburn & Co..	Vegetable and Farm Seeds.
Geo. P. Rowell & Co...	Newspaper Directory.
Paschall Morris.....	Improved Breed of Live Stock.
Jas. J. H. Gregory.....	New and Rare Vegetables.
" "	Seed Catalogue.
C. B. Rogers.....	Extra Early Peas, &c,.
Lightning Trap Co....	New Invention.
Secomb & Co.....	Common Sense Sewing Machine.
American Knitting Machine Co.,	Agents Wanted.

RECEIVED.

From Geo. P. Rowell & Co., New York, the advance sheets of a portion of their *American Newspaper Directory*, which will be put to press as soon as the newspaper changes for the new year can be chronicled; will be printed on fine paper and bound in dark cloth, making a handsome volume of between three and four hundred pages. Price $5.

Catalogue of Spring and Summer Exhibition of the Cincinnati Horticultural Society for 1869, embracing regulations and list of premiums offered by individuals and the Society. Exhibitions will be held on June 5th and 26th, July 17th and 24th, 1869, at Cincinnati, Ohio.

HARFORD COUNTY AGRICULTURAL SOCIETY.—A meeting of all interested in the organization of a Harford County Agricultural Society, will be held at Bel Air, on Tuesday the 5th of January, for the purpose of perfecting the organization and the election of officers for the year 1869, for which object a large number of the most prominent citizens were appointed to arrange the general plan of the association, &c.—consisting of the following gentlemen:

H. W. Archer,	Wm. Baldwin,
H. D. Farnandis,	Joshua H. Scarff,
Franklin Whitaker,	Wm. M. Ady,
R. C. Hardesty,	Archibald Wilson,
J. Rowland Rodgers,	S. M. Whiteford,
Wm. H. Waters,	Henry C. Stump,
John Moores,	Edward M. Allen,
Wm. Woolsey,	Wm. Roberts,
Cheney Hoskins,	H. A. Silver,
Wm. Warner,	Jno. H. Price,
Herman Stump, Jr.,	Thos. H. Streett,
J. M. Streett,	James Silver,
Ramsey McHenry,	Samuel Sutton,
Col. J. C. Walsh,	Wm. M. Elliott,
Dr. Joshua Wilson,	John A. Silver,
Wm. Trimble,	R. L. Morgan,
Charles Smith,	R. H. Smith,
C. R. Dietrich,	Geo. Stephenson,
C. W. Billingslea,	R. H. Archer,
W. F. Pannell,	Edmund Mitchel,
J. G. Hare,	Geo. T. Hays,
David Lee,	Jno. Mitchell,
N. H. Nelson,	R. F. Magaw,
Samuel Streett, Jr.,	Dr. Jno. Evans,
J. Rush Streett,	Bernard Mitchell,
John Howard,	Dr. W. C. Hopkins,
Abraham Rutledge,	R. R. Vandiver,
Evans S. Rogers,	C. B. Hitchcock,
J. Joshua Streett,	Jno. A. Hopper,
J. W. Rutledge,	Albert Davis.

The Dairy.

Temperature of Cream for Churning.—The New England Farmer, in reply to a correspondent who asked for information on this point, so important to all persons who own cows, replied as follows:

"In our own practice we have adopted 62° as the proper temperature. During the winter season, our milk and cream is kept in a cellar where the temperature is uniformly about 62°. In the statement addressed to the Committee on the Dairy, of the Norfolk County, Massachusetts Agricultural Society, Mr. Cheever says, that his "churning is always done with cream at a *known* temperature, varying from 60° to 64°, according to the outside temperature; say 55 to 60°.

Refractory Cream—How to Manage It.—In a late number of the *Rural New Yorker*, a correspondent gave her experience in churning, beating a portion of cream the better part of two days without producing butter, and asked for a remedy in such cases. This is supplied by E. L. Bragdon of Port Ontario, who says: "We have had the same experience, but found a remedy. Salt your cream as you skim it and stir it well. Dissolve two ounces of alum to two pails of cream, and put it in just before churning, and you will have no further trouble. Do not fear the alum; it will improve your butter." This is a cheap remedy, of easy application, and its effectiveness readily tested by those whose cream refuses to "come to time."

Milk of Jersey Cows Keeping Sweet.—A correspondent of the New England Farmer, writes as follows from New Hampshire:

"One of our milk men says, that the milk of a Jersey cow in his herd will keep sweet from ten to twelve hours longer than any milk he has. Is it because the milk is richer? Who will tell? If it is, as the man referred to thinks, because the milk is richer, it will, or should, add much to the value of a cow that gives rich milk. Is the subject worthy of discussion? It is new to me, and may be to many of your readers.

Milk or Cream for one Pound of Butter.—From nine to eleven quarts of milk should make two of cream, which in turn ought to make one pound of butter; or by weight, eighteen to twenty pounds of milk should make four of cream, which should make one of butter. I give this data from a dairy of common cows, and it will of course vary with other breeds and herds. Two quarts of cream is a fair average for one pound of butter, though many cows will furnish an article requiring much less to make one pound.

The Butter-Maker's Golden Rules.—According to Mr. X. A. Willard's views the great secret in butter making, consists in attending to the following points:

1st. Securing rich, clean, healthy milk—milk obtained on rich old pastures, free of weeds.

2d. Setting the milk in a moist, untainted atmosphere, and keeping it at an even temperature while the cream is rising.

3d. Proper management in churning.

4th. Washing out the butter-milk thoroughly, and working so as not to injure the grain.

5th. Thorough and even incorporation of the salt, and packing in oaken tubs, tight, clean and well made.

Cleanliness in all the operations, is of *imperative necessity*.

Judgment and experience in manipulating the cream and working the butter must of course be used.

Cows and Butter.—Fall butter may be nearly as good as that made in June. As the pastures fail, feed a little grain, with turnips and pumpkins, removing the seeds, which act on the kidneys and almost uniformly decrease the flow of milk.

If you want your cows to look well and thrifty, and yield generously their milk, you must remember that they will prosper in proportion as they are cared for during the inclement weather of winter.

Plowing Without Dead Furrows at Corners.—A correspondent in the *Western Rural* gives the following as his plan of plowing to avoid dead furrows: If you wish to plow a land ten rods wide, instead of striking out a land that width take one half that width, pace off five rods from the end and set in your plow and plow to within five rods of the other end and stop; now back-furrow as usual the required width and then turn a square corner at the end, observing to have the end furrow on a parallel line with the outside. By this means you will always turn around on the stubble, thus leaving the land untrodden, and instead of "dead furrows" at the corners you will have "ridges."

To Discover the Actual Value of Marl.—Take twenty pounds of dried marl and sprinkle it with diluted muriatic acid until it ceases to effervesce.—Heat this mixture to nearly a boiling point and then filter, first through coarse cloth, and then through paper until nearly clear. Take the residue left upon the filters and wash clean and dry it. Its weight deducted from the twenty-five pounds originally weighed will give you the amount of cabonate of lime dissolved by the acid.—*Farmer's Gazette, Rich.*

The Poultry House.

FEEDING POULTRY.

One of the most, if not the most important item in the management of poultry is feeding; the quantity, quality and description of food. If, in a pecuniary point of view, the raising of stock is to meet with any amount of success, a correct system of feeding is of the first importance, and upon scientific principles we propose to discuss the subject.—An English *savant*, Mr. Tegetmeier, Fellow of the Zoological Society, lays down some valuable rules, and expresses opinions on the subject which cannot be controverted. The purposes served by food when taken into the body, are of several distinct kinds; first, the production of animal warmth; the provision for the growth and waste of the body; the supply of mineral material for the bones and saline substances for the blood; and lastly the supply of fat. The most important warmth giving foods are starch, sugar, gum, the softer fibres of plants, and oily or fatty substances. So that in warm situations or seasons the variety of food should be judiciously taken into consideration.

For young birds and the formation of eggs, as well as to repair the waste arising from the action and movements of the body, for the foods above are not *all sufficient*, another kind of food is necessary. This is termed flesh-forming food. The gluten, &c., concomitant in different descriptions of grain; also, the varieties of pulse, as beans, peas, &c., and in meat, milk, eggs, &c. The first description of food is termed carbonaceous, or fat-forming and warmth-given; the other nitrogenous, as supplying the rest. The substances contained in the bones, and in other parts of the bodies of animals, occur in larger proportion in the bran than in the inner part of the grain; therefore, a proper supply of bone-making substance is absolutely necessary to the growth of a healthy animal, as if wanting in the food the bones become soft, and the general health soon fails.—Barley possesses a very fair proportion of flesh forming substances, but less fatty matter than other varieties of corn. Small wheat is excellent for fowls. Buckwheat is equal to barley, peas or beans. Tares are flesh-formers, but are regarded as too stimulating for general use. Poorly fed fowls will never pay. Mr. Tegetmeier holds that it is most economical to feed twice a day. Fowls should be let out early in the morning, and allowed to roam after worms and insect food, the morning meal given at a regular hour, and they should never go to roost unfed, particularly in winter. Fed liberally twice a day, if fowls are expected to be profitable.

Range for Hens.—The following is from a report before the Bristol, Massachusetts, Agricultural Society: "Perhaps there is no greater or more common blunder made by the inexperienced, than in the estimate they make of the space required for a flock of poultry. Not less than half an acre of ground at the very least—and of that two-thirds should be in grass—is sufficient to keep a flock of twelve in perfect health the year round. An advantage would be gained by giving even more than this. Yet how often do we see flocks of thirty or forty confined during the whole year to a space hardly one half of this. To keep a flock of such a size in health, it is no test even if they thrive the first season, in such limited quarters. The second or third season, at most, roup and vermin will begin to make their inroads, and after losing half his young broods, the farmer concludes that raising chickens does not pay—and it ought not to, under such bad management."

Lice on Chickens.—The best plan for any one to adopt when there are any insects on fowls, is to let them sleep on pine shavings, and the turpentine will soon drive away all insects. I sometimes sprinkle it on my dog's bed and the fleas soon leave.

Another.—These pests may be killed or driven away by greasing the head and neck, and the body, under the wings, with lard or petroleum. The boxes, or nests, in which they lay should also be greased. If hens are provided with ashes or dust of any kind in which to roll, and if their roosts, etc., are whitewashed frequently, they will not be troubled with lice.

Hens.—A hen, if she is allowed her liberty, will eat one bushel of corn a year. Good corn and clean water is the best feed, with scraps of meat, &c., in the winter. We have a hen that paid more than $16 profit last year; she raised two broods of chickens, (twenty). I was offered one dollar each for them in December. Any hen if allowed to bring up a brood of chickens will pay a profit of from $3 to $10 a year.

Characteristics of a Dark Brahma Cockerel.—A dark Brahma cock should have a light hackle and saddle, black tail, spotted breast, black thighs, pea-comb, and yellow and well-feathered legs. Black breasts are not disqualifications. The breast of a perfect bird should be distinctly black and white.—Light breasts with lighter spots are very objectionable. Light thighs are also the reverse of desirable. The comb should be firm on the head.—*Prarie Far.*

Remedy for the Roup.—Apply for this disease sweet or olive oil to the heads, well all over, and half teaspoonful give inwardly; repeat every day until a cure is effected.

Packing Eggs and Apples---Killing, Dressing and Packing Poultry.

We have witnessed, says the *Turf, Field and Farm*, such heavy losses to shippers from a distance to the New York market, occasioned by neglect or unskillful packing, that we determined to apply to a well established commission house for information on the subject. Messrs. Young & Saunders, of 258 Fulton row, West Washington Market, sent us the following circular, with the additional statement that there is no point so far South from which to ship eggs packed as directed, if it be done after the cool weather sets in. From our own experience for years in Louisiana and Mississippi, we are satisfied that the Southern States, for reasons obvious to all, can furnish three eggs for one produced in the latitude of New York :

For Packing Apples.—Select bright barrels, and cooper them tightly ; take your best and smoothest apples, and place them nicely, stem down, on the bottom of the barrel ; place thus three rows, then pour in your apples until your barrel is well filled ; after being well shaken, fill so full you have to use power to get in the head ; then cooper tightly and turn the barrel over, marking the head where the apples are placed ; mark neatly the kind of apples. Follow these directions and your fruit will always bring good prices.

Packing Eggs.—Use bright barrels and select your eggs free from stains. In the summer use oats (we prefer oats for all seasons, as they pack better), cooper your barrels lightly, place in the bottom about two inches of straw, then cover with paper to save your oats from mixing with the straw, then put in about two inches oats, then place your row of eggs, keeping them about ½ inch from the side of the barrel, then add about two inches oats, then another row of eggs, and so on until the barrel is filled to about four inches of the top, then add about three inches oats, place your paper, and fill up so full with straw you have to press the head in ; always shake the barrel well every third row ; cooper your barrels tightly ; mark with stencil. We will furnish stencil plate ; send for one. Following these directions and paying particular attention to count, your eggs will sell as New York State eggs, commanding good prices.

For Killing and Dressing Poultry.—See that your poultry is in good condition before killing, tie their legs and hang them on beams so they cannot bruise themselves against anything ; pick a few feathers from the neck ; then cut the vein in the neck ; let them hang with their heads down until they bleed to death ; use water nearly boiling, picking the feathers from them clean, leaving the head, feet and wings on ; but be particular to pick them clean ; then put them in clean water nearly boiling and let them remain about half a minute, then in cold water and let them remain until nearly cold, then place them on boards and let them lay until all the animal heat is out of them. If you do not use warm water to pick the feathers from them, but can pick them dry, you have only to pick the feathers clean from them and place them on boards until all the animal heat is out of them, then pack in barrels or boxes, using clean straw. Rye straw is generally the best to use. Poultry killed, and packed in this way will always sell as New York State poultry, and will bring good prices.

LOUDON COUNTY GRAPE GROWERS.

The following we extract from the Leesburg Mirror, to show the interest manifested by the people of that section of Virginia, in the culture of the grape, which we believe is destined to be, with them, a highly remunerative crop :

"We are glad to find that the culture of the vine is beginning to receive that attention from some of our citizens which its importance demands. The soil and climate of this portion of the State are so eminently adapted to grape growing, that it must soon become an important addition to the resources and wealth of the county ; and with the proximity of Loudoun to the cities of Washington and Baltimore, a ready market will be afforded our vineyardists both for the fruit and the wine they produce.

For the benefit and encouragement of those contemplating the culture of the grape, we give below a list of our Loudoun grape growers, with the varieties planted, and are reliable informed that all these vineyards are in the most flourishing condition, giving every promise of success in this highly and interesting branch of business :

Arthur L. Rogers has five acres in grapes at Middleburg, and has recently purchased ten acres adjoining, with a view to extending his vineyard, if the enterprise proves profitable. Varieties : Delaware, Nortons, Virginia, Ives, and Concord.

Burr P. Noland and Dr. Wm. B. Cochran have a vineyard of three acres, at their "Highacre" farm, near Middleburg. Varieties : Concord and Clinton.

John T. Ross has a vineyard of four acres on a slope of the Blue Ridge, near Bloomfield. Varieties : Catawba, Concord, Ives and Iona.

John Keen has about five acres in grapes, near Union. Varieties : Clinton, Ives and Concord.

Matthew Harrison has about one acre in grapes, near Leesburg. Varieties : Delaware, Diana, Rebecca and Catawba.

Wm. Giddings is preparing to plant an extensive vineyard, this fall, near Waterford.

There may be others of whom we have not heard but these are sufficient to show that our people are awakening upon the subject of grapes and wine.

The Louisville *Journal* ungallantly says that woman, with all her beauty and worth, should remember that man was the chief matter considered at the creation. She was only a side issue.

BALTIMORE MARKETS---Dec. 29.

Prepared for the "MARYLAND FARMER" by JOHN MERRYMAN & Co., BALTIMORE.

[*Unless when otherwise specified the prices are wholesale.*]

BEESWAX—Western 40 cts.; Southern 41@42 cts.

COFFEE.—Rio 15½@18¼ cts., gold.

COTTON.—Low Middling 24@24½ cts.; Middling, 26@25¼ cts.; Ordinary Upland 22¼ cts.; Good Ordinary 25¼@24 cts.

FEATHERS.—Common to mixed 40@50 cts. per lb.; fair to good 60@70 cts.; prime live geese, 80 cts.

FISH.—No. 1 Bay mackerel $23@25¼; No. 1 Shore $18@21; No. 2 $15@16; No. 3 $12@13; medium $10.50@12; Labrador herring $9.50@10.25; gibbed $5.50@6.50; Codfish $5.50@7, per 100 lbs.

FLOUR—

Howard Street Super	$ 6.50	@	$ 7.12
" " Shipping Extra	8.50	@	8.75
" " High Grades	9.00	@	10.00
" " Family	10.50	@	11.50
Western Winter Super	6.50	@	6.75
" Shipping Extra	7.25	@	8.50
" Choice Extra	9.00	@	9.50
" Family	10.25	@	11.00
Northwestern Super	6.00	@	6.50
do Extra	7.00	@	8.25
City Mills Super	6.50	@	8 25
" " Standard Extra	8.75	@	9.00
" " Shipping brands Extra	10.00	@	10.50
Patapsco, Horicon, Reservoir and Weverton Family	00.00	@	12.75
G. W. Legg's Family	00 00	@	13.75
Union Mills Acme Family	00.00	@	14.50
Greenfield Family	00.00	@	14.50
James S. Welch's Family	15.00	@	00.00
Baltimore High grade Extra	00.00	@	14.00
Ashland Family	12.75	@	00.00
Linganore	12.75	@	00.00
Rye Flour	7.00	@	7.50
Corn Meal—City Mills	0.00	@	5.00
Buckwheat—New York ₱ 100 lb	4.75	@	5.00
" Pennsylvania	4.50	@	4.75

FERTILIZERS—

The Agent of the Peruvian Government has advanced the price of Guano $2.50 per ton, gold, now selling in lots of 50 tons at $62.50 gold. Dealers are charging $82.50@85, as to quantity, per ton of 2000 lbs.

Turner's Excelsior	70	₱ ton of 2000 lbs.	
Turner's Ammo. S. Phos	55	₱ ton	"
Coe's Ammo. S. Phos	55	₱ ton	"
Soluble Pacific Guano	56	₱ ton	"
Redonda Guano	30	₱ ton	"
Flour of Bone	65	₱ ton	"
Andrew Coe's Super-phosphate	60	₱ ton	"
Baugh's Raw Bone S. Phos	56	₱ ton	"
Baugh's Chicago Blood Manure	50	₱ ton	"
" " Bone Fertilizer	46	₱ ton	"
Grimes' Pat. Improved Fertilizer	48	₱ ton	"
Zell's Raw Bone Phosphate	56	₱ ton	"
Rhodes' do	50	₱ ton	"
Mapes' do	60	₱ ton	"
Bone Dust	45	₱ ton	"
Horner's Bone Dust	45	₱ ton	"
Dissolved Bones	60	₱ ton	"
Baynes' Fertilizer	40	₱ ton	"
" Fine Ground Bone	45	₱ ton	"
"A A" Mexican Guano	33	₱ ton	"
"A" do. do	30	₱ ton	
Moro Phillips' Super-Phosphate	56	₱ ton	
Berger & Burtz's S. Phos. of Lime	55	₱ ton	
Md. Fertilizing & Manufacturing Co's Ammoniated Super-Phosphate	50	₱ ton	
Fine Ground Bone Phosphates	30	₱ ton	
Plaster	$2.25	₱ bbl.	

Sulphuric acid, 3 cts. ₱ lb.—(Carboy $3.)

Nitrate of Soda (refined Saltpetre) 6¼ cts. per lb in kegs of 100 lbs.

GRAIN.—*Wheat*—Prime to choice red 2 35@2.50; common to good do. 1.90@2; Maryland white 2.25 @ 2.40.—*Corn*—Prime new white 98 cts; damp 85@90 cts.; old white 1.10; new yellow 1.07@1.10. *Oats*—68@74 cts. weight. *Rye*—$1.40@1.60.

HAY AND STRAW.—Maryland Timothy baled $20@22; Rye Straw $17@18 per ton.

MILL FEED.—Brown Stuff 21@22 cts; Middlings 33@38 cts., per bushel.

MOLASSES—Porto Rico, 55 cts; Cuba clayed 35@38 cts. E. Island 42@65 cts. New Orleans 70@80.

POTATOES.—Jerseys 85@90 cents per bushel; Eastern 95@$1.

PROVISIONS.—Shoulders 14½ cts.; Rib sides 18½ cts.; clear rib 18½@18¾ cts.

SALT.—Fine $2 90@3.10, per sack; ground alum $2.10@2.20; Turks Island 50@55 cts., per bushel.

SEED.—Clover $7.50@8.25; Timothy $3.00; Flax $2.50.

SUGAR.—Cuba 10⅞@11⅛; Porto Rico 10¾@11¼; Demarara 13@14⅛ cts.

TOBACCO—

Maryland—frosted to common	$ 4.00	@	$ 5 50
" sound common	6.00	@	7.00
" good do	7.00	@	8.00
" middling	8.50	@	10.50
" good to fine brown	11.00	@	15.00
" fancy	17.00	@	30.00
" upper country	7.00	@	35.00
" ground leaves, new	4.00	@	13.00
Ohio—Inferior to good common	4 00	@	6 00
" brown and greenish	7.00	@	8 00
" good and fine red and spangled	00.00	@	00.00
" medium and fine red	9.00	@	18.00
" common to medium spangled	9.00	@	13.00
" fine spangled	15.00	@	20.00
" fine yellow and fancy	20.00	@	30.00
Kentucky—common to good lugs	8.00	@	10.00
" common to medium leaf	11.00	@	14.00
" good to fine	15.00	@	18.00
" select leaf	20.00	@	25.00

WOOL.—Unwashed, 30@33 cts.; burry 25@27 cts.; tub washed 50@53 cts; pulled 30@36 cts.

WHISKEY.—1.07@1.08 cts.

Latest New York News.

Napoleon III. Strawberry,

The best Berry for Amateur Culture,

AND THE

Maryland Farmer for 1869.

:o:

On receipt of $3.50 we will furnish by mail, postage paid, one dozen plants of NAPOLEON III., (price $3.00 per dozen) and MARYLAND FARMER for 1869. Illustrated Descriptive Circular, (with testimonials of Charles Downing, Thomas Meehan, H. E. Hooker, Prof. Heiges, and other leading fruit growers,) mailed to applicants; also,

For $3.00, 12 plants (by mail, postage paid,) and either of the following for 1869

"American Farmer," Rochester, N. Y.
"National Agriculturist", Pittsburg, Pa.
"The Ruralist", Cincinnati, Ohio.
"The Northern Farmer", Fond du Lac, Wis.
"American Entomologist", St. Louis, Mo.
"Rural Gentleman", Baltimore, Md.
"Western Ruralist", Louisville, Ky.
"Farm and Garden", Clinton, S. C.
or any $1 Magazine or Newspaper, published in the United States.

For $3.50, 12 plants, (as above,) and either of the following for 1869:

"The Working Farmer", N. Y. City.
"Rural American", New Brunswick, N. J.
"The Northwestern Farmer", Indianapolis, Ind.
"The American Farmer's Magazine", Cincinnati, Ohio.
"The Farmer's Gazette", Richmond, Va.
"Maryland Farmer", Baltimore, Md.
"Southern Ruralist", Tangipahoa, La.
"Practical Farmer", Phila.
or any $1 50 Magazine, or Newspaper published in the United States.

For $4.00, 12 plants (as above) and either of the following for 1869:

"Maine Farmer," Augusta, Me.
"Gardener's Monthly", Phila.
"Farmers Chronicle", Columbus, Ohio.
"Ohio Farmer", Cleveland, Ohio.
"Prairie Farmer", Chicago, Ill.
"Western Farmer", Madison, Mis.
"Farmer's Advertiser", St. Louis, Mo.
"Colman's Rural World", St. Louis, Mo.
"American Farmer", Baltimore, Md.
"Southern Planter and Farmer", Rich., Va.
"Southern Farmer", Memphis, Tenn.
"Southern Cultivator", Athens, Georgia.
"Southern Horticulturist", Canton, Miss.
"The Carolina Farmer", Wilmington, N. C.
"New York Weekly Tribune", N. Y. City.
"New York Weekly Times", N. Y. City.
or any $2.00 Magazine, or Newspaper, published in the United States.

For $4.50, 12 plants (as above) and either of the following for 1869:

"Record and Farmer," Brattleboro, Ver.
"New England Farmer", Boston, Mass.
"The Mass. Ploughman", Boston, Mass.
"Horticulturist", N. Y. City.
"Cultivator and Country Gentleman", Albany, N. Y.
"Western Rural", Chicago, Ill.
"Rural West," Quincy, Ill.
"Iowa Homestead", Des Moines, Iowa.
"Advance", Chicago, Ill.
"Independent", N. Y. City.
"The Methodist", "
"The Church Union", "
or any $2.50 Magazine, or Newspaper, published in the United States.

For $5.00, 12 plants (as above) and either of the following for 1869;

"Journal of Horticulture and Floral Magazine," Boston, Mass.
"Boston Cultivator", Boston, Mass.
"Rural New Yorker", Rochester, N. Y.
"Farmer's Journal", Lexington, Ky.
"Congregationalist", Boston, Mass.
"Semi-weekly Times", N. Y. City.
or any $3 Magazine, or Newspaper, published in the United States.

For $5.50, 12 plants (as above) and the New York Observer, or any $3.50 Magazine or Newspaper published in the United States. 1t

EDWARD J. EVANS & CO.

Nurseryman & Seedsman, York, Pa.

BRITISH PERIODICALS.

The Londonn Quarterly Review,

The Edinburgh Review,

The Westminster Review,

The North British Review,

AND

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The Celebrated Patent Craig Microscope

Is an optical wonder, and combines instruction with amusement. Thousands have been sold, and it has received the highest recommendations from the press and public everywhere, for which see circulars. It distances and defies competition, being made on a different plan from all other microscopes, hence its simplicity, low price and high magnifying power. It is also the only microscope which requires no focal adjustment, therefore it can be readily used by children as well as scientific men. It is adapted to the use of physicans, entomlogists, students, the family circle, and to every lover of the beautiful, wonderful and inexhaustible things of nature; for it opens up an endless unseen kingdom to the view of the astonished beholder, where the unassisted eye no beauty sees—thus leading us from nature up to nature's God. It magnifies ten thousand times, a power equal to other microscopes of many times its cost. Reveals the globules in milk, blood and other fluids, solids or salts of urine, animalcules and minerals in water, cancer cells, eels in vinegar, claws and hairs of insects, shape of the pollen of flowers, hundreds of eyes in the single eye of a fly, tubular structure of hair, dust of a butterfly's wing to be perfectly formed feathers, adulterations of food, and also the celebrated *trichina spiralis* or pork worm which has caused so much excitement in this country, and which was *first* discovered here with *this* microscope by Dr. R. C. Kendall, of Philadelphia. Price only $2.50.—Mailed post-paid, for $2 75. Address

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To all whom it may Concern.

Strawberry, Raspberry and Blackberry Plants of all the Leading Varieties for sale cheaper than ever before offered.

Also, Root Cuttings, Currant and Gooseberry Bushes, Grape Vines, Asparagus Roots and Early Rose Potatoes. All warranted genuine and of the best quality. Persons wishing to plant any of the above would do well to send for a list of our LOW PRICES previous to purchasing elsewhere

☞ Satisfaction guaranteed and correspondence solicited.

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A thorough-bred Chester White BOAR, 15 months old. Price $40. Address

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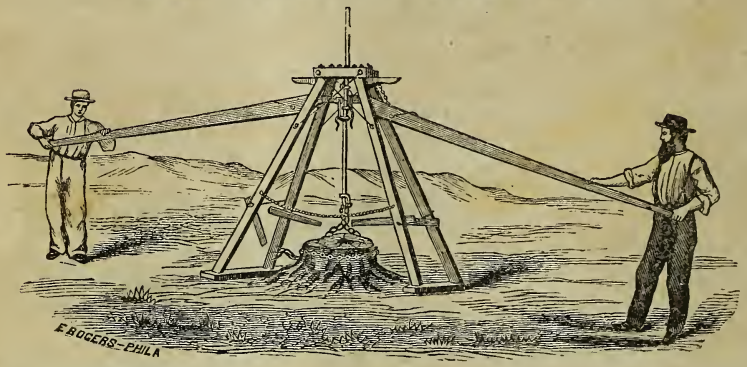
THE PIONEER STUMP PULLER

AND ROCK LIFTER.



"Give me whereon to place my Fulcrum and I will move the World."

This is a Lever Machine, and can be made of any required strength, size or shape.

The following are some of its advantages :

1st. GREAT POWER.—Two men being sufficient to raise 25,000 pounds.

2d. PORTABILITY.—Weighing only 300 pounds, and fitted with handles, so that two men can easily move it from one stump to another.

3d. QUICK ACTION.—The pawls being made to bite and hold on a smooth bar at any point, saving any lost motion that would occur in all ratchet machines.

4th. IT WORKS almost without friction, the levers working like a steelyard beam, and the lifting-bar sliding loosely through the top, so that every pound applied draws directly on the work.

5th. SIMPLICITY.—The work is all so plain and easy that any common mechanic can make or mend any part of it.

6th. DURABILITY.—There is no wear except on the lever bolts, and they, if properly oiled, will last a long time. The lifting bar will by use become hard and smooth like a bar of steel, and remain so forever.

7th. THE PRICE comes within the reach of every farmer who has stumps to pull, or rocks to dig. The small sized machine, with grapples complete and ready for work, strong enough to raise 25,000 pounds, light enough to be moved easily by two men, with action quick enough to pull One Hundred stumps per day, can be had at the low price of

SEVENTY DOLLARS.

The next size, worked by three men, will raise 35,000 lbs., weighs 400 lbs., and costs

ONE HUNDRED DOLLARS.

The largest size, worked by four men, will raise 50,000 lbs., weighs 450 lbs., and costs

One Hundred and Twenty-five Dollars.

A ROCK LIFTER, made to use on wheels, or in quarries—same principle—worked by one man, will raise 15,000 lbs., weighs 200 lbs., and costs

SIXTY DOLLARS.

We do not furnish the wheels and carriage, but the machine complete with hooks.—These machines will be closely packed, everything complete. The machines are now in use in seventeen different States. For sale by

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TO THE FARMERS & PLANTERS

OF THE

SOUTHERN STATES!

"EXCELSIOR."

Containing Ammonia, - - - - - - 6 per cent.
Super-Phosphate equivalent to
Bone Phosphate of Lime, - - 57 "
Potash of Soda, - - - - - - 5 "

Composed of 700 pounds of No. 1 Peruvian Guano, and 1,300 pounds of *Soluble* Phosphate of lime (bones dissolved in acid,) potash and soda, forming the most concentrated, universal and durable fertilizer ever offered to the farmer and planter—combining all the stimulating properties of Peruvian Guano, and the ever durable fertilizing properties of Ground Bones—supplying an abundance of Ammonia for any crop, and all soils, and in a perfectly fixed condition—not volatile and passing off with the first crop, as with Peruvian and other ammoniacal guanoes, but stimulating the crop to which it is applied, and all succeeding ones, giving to poor, worn out and unproductive soils, new life and vigor, making them, in this respect, equal to the most highly cultivated lands, upon which much time and money have been expended.

We introduced Excelsior in 1858, and challenge the manufacturers and venders of fertilizers, natural or artificial Guano, to show results so invariably successful as can be shown from its use. One of our firm superintends in person every minutia of its manufacture. We therefore warrant every bag uniform, and to contain by analysis, the standard of fertilizing properties, giving that protection to the farmer which he does not have in the purchase of any other Guano or Fertilizer sold.

Excelsior is in fine dry powder, prepared expressly for drilling, and can be applied in any quantity per acre, however small; and it is the opinion of the most prominent and calculating Planters, after eight years experience in testing it side by side with other popular fertilizers, that an application of 100 pounds per acre of Excelsior is equal to from 200 to 300 pounds of any other fertilizer or guano offered for sale, therefore is fully 100 to 200 per cent. cheaper.

We are daily in receipt, from every quarter, of flattering encomiums from those who used it last spring and summer on cotton, corn and tobacco, and last fall on wheat, and had we the space could publish hundreds of testimonials, many from gentlemen who have continued its use year after year since its introduction.

The best evidence we can offer of the value of our Excelsior as a crop grower and fertilizer, is the fact of its being imitated and counterfeited in this and other cities. Some unprincipled manufacturers have actually used our trade mark for the purpose of palming off their worthless compounds.

EVERY BAG BRANDED AS FOLLOWS:

Farmers should see that every bag bears in *red letters* the name of J. J. TURNER & CO. under the inspection mark, and thus secure the genuine article.

J. J. TURNER & CO.,

421 Pratt Street, Baltimore, Md.

NAVASSA GUANO,

The only reliable source of Rich Bone Phosphate of Lime.

The attention of manufacturers of Artificial Manures and agriculturists is called to the following analysis of Navassa Guano. The fact alone of a good and increasing market having been found in Europe for this guano, whilst none of the many Phosphates for sale in this country can there find a purchaser, speaks as favorably for the richness and reliability of our guano as it is possible, and the further fact that it is the base of nearly all the well known Artificial Manures now manufactured, and the recommendation of it by such men as Prof. Voelcker, Sibson and Liebig, is sufficient guarantee to the user that by its selection he has obtained the richest Phosphatic Material extant. We guarantee the guano to contain a given amount of Bone Phosphate of Lime, to be anlyzed upon arrival by any competent chemist the purchaser may select. Supplying the trade with this Guano in fine powder, packed in strong bags, containing twenty per cent. more Phosphate than any article now offered, at $30 per ton, or crude, direct from Navassa Island, at proportionally low rates.

LABORATORY, 11 SALISBURY SQUARE, FLEET STREET.

Analysis of six samples, representing that number of cargoes, lately brought to England.

	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.
Moisture	13.61	2.73	5.51	7.70	8.77	13 07
Water in combination and Organic Matter	6.72	7.39	6.50	7.04	6.67	....
*Phosphoric Acid	30.88	32.48	31.85	31.98	31.23	31.64
Lime	32.56	34.06	37.73	35.10	37.22	37.08
Oxides of Iron, Alumina, Carbonic Acid, &c	13.88	20.16	16.09	15.60	13.80	16.01
Insoluble Silicious Matter	2.35	3.18	2.32	2.58	2.31	2.22
	100	100	100	100	100	100
*Equal to Tribasic Phosphate of Lime (bone earth)	67.41	70.90	69.50	69.81	68.18	69.07

The commercial value of Navassa Guano, it is scarcely necessary for me to say, is mainly regulated by the amount of Phosphoric Acid which it contains. In the foregoing analysis the percentage of Phosphoric Acid was accurately determined.

AUGUSTUS VOELCKER,
Prof. of Chemistry to the Royal Agricultural Society of England.

Remarks and Analysis by Dr. Sibson, of London. 11 *Eaton Terrace, St. John's Wood, Dec.*, 1867.

Amongst the natural deposits of phosphates now at command for furnishing the constituents of our super-phosphates and other prepared manures at present so extensively consumed in our fields, that of the Island of Navassa, lately brought to notice, appears to be one of the most important. In the search for Natural Phosphates, now pretty actively prosecuted, materials of this description are sometimes found, which may possess a certain amount of scientific interest, but are of no practical importance, solely on account of their insignificant quantity. Again, a phosphate possessing almost every desirable quality, may be excluded from the market by the unfortunate fact of its percentage of Phosphate of Lime being too low. Neither of these drawbacks, however, attach to the Navassa Guano.

As I find from analyses of several cargoes lately brought to this country, that the Navassa Guano possesses a high value, I consider that it merits more than ordinary attention.

	No. 1.	No. 2.	No 3.	No 4.	No. 5.	No. 6.
Moisture and Water of Combination	10.24	9.25	5.73	12.90	11.15	6.53
*Phosphoric Acid	32.94	32.57	33.43	32.21	31.27	33.03
Lime	37.91	37.34	40.15	33.13	34.90	37.20
Carbonic Acid	1.30	1.20	(not determined.)		1.68	1.02
Equal to Carbonate of Lime	2.95	2.72	"	"	3.75	232
Oxide of Iron, &c	15.35	17.18	17.85	16.63	15 83	18.24
Insoluble Matter	2.25	2.46	2.84	2.13	5.17	3.98
	100	100	100	100	100	100
*Equal to Tribasic Phosphate of Lime	71.36	70.57	72.43	69.80	67.76	71.58

The average percentage of Phosphate of Lime, in most samples, I find to be over 70 per cent., which, as an average, is higher than most Phosphatic materials now on the market.

ALFRED SIBSON, F. C. S., &c. *Royal Agricultural College, Cirencester, England.*

Analysis by Dr. Liebig, Baltimore, of cargoes lately imported.

Bark Savannah...June 8, 1868, containing, crude, 69.94—when dried, 76.61 per cent of Bone Phosphate of Lime.
Brig Cyrus Fassett, " 27, 1868, " " 68.89 " " 75.16 " " "
Brig Fidelia..... " 10, 1868, " " 68.87 " " 75.44 " " "
Brig M. E. Banks..May 8, 1868, " " 66.03 " " 73.59 " " "
Brig Romance....June 16, 1868, " " 69.11 " " 76.61 " " "
Brig E. H. Rich..Sept. 21, 1868, " " 68.57 " " 74.56 " " "
Brig Diego.....Aug. 12, 1868, " " 67.00 " " 75.16 " " "

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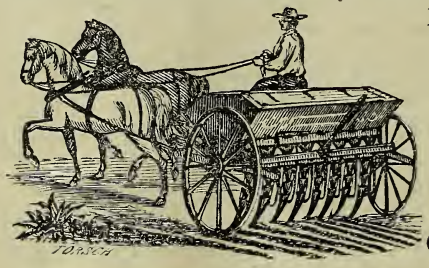

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9 " " - - -	90 00		
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